

The Mining Journal

RAILWAY AND COMMERCIAL GAZETTE

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

[The MINING JOURNAL is Registered at the General Post Office as a Newspaper, and for Transmission Abroad.]

No. 2150.—VOL. XLVI.

London, Saturday, November 4, 1876.

[WITH SUPPLEMENT.] { PRICE SIXPENCE } { PER ANNUM, BY POST, £1 4s. }

MR. JAMES H. CROFTS, STOCK AND SHARE BROKER,
No. 1, FINCH LANE, CORNHILL, LONDON, E.C.
ESTABLISHED 1842.

BUSINESS transacted in all descriptions of MINING Stocks and Shares (British and Foreign), Consols, Banks, Bonds (Foreign and Colonial), Railways, Miscellaneous, Insurance, Assurance, Telegraph, Shipping, Canal, Gas, Water, and Stock Shares.

BUSINESSES negotiated in Stocks and Shares not having a general market value.

BUSINESS in COLLIERY and IRON SHARES, and in the principal WAGON and MANUFACTURING COMPANIES of the NORTH of ENGLAND and SCOTLAND.

BUSINESS in all the principal COTTON SPINNING SHARES.

Mr. J. H. CROFTS, having now established CORRESPONDING AGENCIES in all the chief Towns of the United Kingdom, is prepared to deal in the various LOCAL STOCKS and at close market prices.

Accounts opened for the Fortnightly Settlement.

Monthly and Daily Price Lists issued.

Bankers : City Bank, London ; South Cornwall Bank, St. Austell.

SPECIAL DEALINGS in the following, or part:—

10 Aberdant.	25 Penstruthal, 11s.
10 Alderman.	25 West Van, 10s.
10 Abergav.	10 Great Laxey.
10 Abergav.	10 Pateley Bridge, 2s.
10 Abergav.	15 Richmond, £10 1s.
10 Abergav.	15 I.X.L., £1 1s. 3d.
10 Abergav.	10 Roman Grav., £14.
10 Abergav.	50 Rookhope, 17s. 6d.
10 Abergav.	25 Llanrwst, £2 3s.
10 Abergav.	20 Sweetland Creek, 6s 3d
10 Abergav.	10 Lawes Chemical, £7 1s.
10 Abergav.	5 Tankerville, £10 5s.
10 Abergav.	10 Thorpe Gawber, £3 1s.
10 Abergav.	20 Van Consols, £2 1s.
10 Abergav.	15 W. Tankerville, £1 1s 4d.
10 Abergav.	10 West Craven Moor.
10 Abergav.	5 West Chiverton.
10 Abergav.	25 Pestarea, 5s. 3d.
10 Abergav.	25 Wheal Grenville, 20s.
10 Abergav.	5 Wye Valley, 26s.
10 Abergav.	100 Parry's Mount, 13s. 6d.
10 Abergav.	5 Wye Valley, 26s.

* Shares sold for forward delivery (one, two, or three months) on deposit of 20 per cent.

SPECIAL BUSINESS in POSITIVE ASSURANCE SHARES,
Business on hand in all the principal TIN, COPPER, and LEAD SHARES.

AQUARIUM, HOTEL, AND MISCELLANEOUS SHARES.—
SPECIAL BUSINESS.—FOR SALE, 20 Brighton Aquarium, £14 18s. 9d.;
1 Royal (Westminster), 22 5s.; 10 Royal Insurance, £16 1/2; 10 Scottish ditto; 15
Brisca Fire, 12s.; 10 Lebong Tea; 5 Darjeeling.
WANTED—15 Milford Dock Shares (fully paid); 50 Richards and Co., 15 Pelter;
10 Chilhamton Iron.

JAMES H. CROFTS, 1, FINCH LANE, LONDON.

COLLIERY SHARES.—SPECIAL BUSINESS in ALLTAMI,
BILSON AND CRUMP, CHAPEL HOUSE, CAKEMORE, CARDIFF
AND SWANSEA; NEWPORT ABERCAINE; NEW SHARSTON; THORP'S
GAWBER, WEST MOSTYN (Ordinary and Preference), and Others.

JAMES H. CROFTS, 1, FINCH LANE, LONDON.

COTTON SPINNING SHARES.—These steady and remunerative
securities (comparatively little known on the London Market, but largely
invested in the manufacturing districts) can be bought at the present time at
unusually favourable prices to pay good dividends on the capital invested. The
following Shares (Oldham Mills) are amongst the safest and best of their class:—

Name of Mill.	Nom. amount	Last quarterly dividends,	Closing	
Name of Share.	Paid up.	per cent. per annum.	quotations.	
Central Spinning	£ 5	£2 10 0	10, 30, 26, 20	... £ 3 1/2 £ 4
Greencroft	5	4 0 0	30, 20, 30, 20	... 5 1/2, 6
Green Lane	5	Fully paid	30, 25, 30, 25	75, 80
Boyton	5	2 0 0	35, 30, 20, 10	2 1/2, 3 1/2
Shaw	5	2 10 0	— 12 1/2, 20, 16	2 1/2, 3 1/2
Birr	5	2 10 0	— 17 1/2, 25, 20	3, 3 1/2
Twist	20	Fully paid	5, 32, 26, 13	26 1/2, 28 1/2
Windsor	5	2 10 0	30, 27, 20, 10	3 1/2, 4 x d

* The accounts of all the above companies are made up and profits divided quarterly.

JAMES H. CROFTS, 1, FINCH LANE, LONDON.

FOREIGN BONDS—ARGENTINE—EGYPTIAN—RUSSIAN,
SPANISH, TURKISH, SPECIAL BUSINESSES, and latest information.

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RAILWAYS.—SPECIAL BUSINESS. Fortnightly accounts
opened on receipt of the usual cover.

JAMES H. CROFTS, 1, FINCH LANE, LONDON.

LEADHILLS (LANARKSHIRE).—SPECIAL BUSINESS
in these Shares.

JAMES H. CROFTS, 1, FINCH LANE, LONDON.

MR. WILLIAM H. BUMPUS,
STOCK AND SHARE BROKER,
44, THREADNEEDLE STREET, LONDON, E.C.
[Established 1867.]

SPECIAL BUSINESS, at close prices, in the SHARES of all the principal
HOME and FOREIGN MINES.

Mr. BUMPUS directs particular attention to
MINING INVESTMENTS,

and is in a position to give reliable information and advice respecting the same.

* The shares of several sound Dividend and Progressive Mines may now be obtained at prices which are very much in favour of purchasers, and investments made at the present time in this direction will, in all probability, yield very satisfactory results within a comparatively short period. A carefully selected List of Shares, likely to have an early rise in market value, may be had on application.

FOR SALE, at prices annexed:—

20 Argentine.	25 Frontino, £1 11-16.	40 Parva Montt., 14s. 3d.
25 Blue Tent.	60 Great W. Van, 10s.	35 Penstruthal.
25 Condes of Chili.	100 Gold Run, 3d.	20 Richmond, £10 5-16.
100 Cedar Creek, 9s. 3d.	40 I.X.L., 21s. 9d.	15 Tankerville, £10 7-16.
50 Devrent, 4d.	30 Javali, 12s.	15 Van Consols, £2 3s.
50 Escherich, £2 3-16.	10 Leadhills, £7 5-16.	30 W. Tankerville, £1 1s.
	30 Pennerley, 41 5s. 6d.	

30 Pennerley, 41 5s. 6d.

SPECIAL NOTICE.

THE THREE GREAT PRIZES FOR THE COMING YEAR:—
ARGENTINE COMPANY (LIMITED).
CONDES COMPANY OF CHILI (LIMITED).
BLUE TENT HYDRAULIC GOLD MINES (LIMITED).

Capitalists and Investors will do well to secure an interest in these valuable properties without delay, as the shares are certain to have a great rise. All the above are thoroughly sound and legitimate, not ephemeral schemes, but substantial undertakings which have had large amounts of capital judiciously spent upon them, and are commencing to yield good returns; each being managed by a responsible and practical directorate, and efficient officers. Those, therefore, who invest in the shares at present prices may confidently expect to make a large profit on their outlay, and receive handsome dividends at an early date. The eminently satisfactory report from these properties prove them to be no speculations, and they undoubtedly afford an unusually favourable opportunity for the safe and profitable employment of capital. Full particulars of the mines, and every information concerning the several companies, may be obtained on application to Mr. BUMPUS, who has special facilities for dealing in the shares.

WILLIAM HENRY BUMPUS, SWORN BROKER.
Business transacted in Stock Exchange Securities and Miscellaneous shares of every description. Fortnightly accounts opened. References given and required when necessary. A Stock and Share List forwarded free on application.

BANKERS.—The NATIONAL PROVINCIAL BANK OF ENGLAND, E.C.

FERDINAND R. KIRK, STOCKBROKER
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Some unusual opportunities are now offering for sale or purchase. Fortnightly accounts opened on the usual terms.

Wherever a difficulty arises as to the price of any security, whether quoted or not, application should be made as above, when full particulars will be forwarded by return of post.

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Bankers: The Alliance Bank.

Business transacted in every description of British and Foreign Stocks, Mining Bars, &c.

Fortnightly accounts opened in rails, foreign stocks, and mining shares.

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MESSRS. PETER WATSON AND CO.,
STOCK AND SHARE DEALERS,
54, OLD BROAD STREET, LONDON, E.C.

BRITISH AND FOREIGN (MONTHLY) MINING NEWS.

STOCK AND SHARE INVESTMENT NOTES—MINES,
MINERALS, and METAL MARKETS—SHARE LIST.

No. 778, Vol. XV., for October, 1876.

Annual subscription, 5s.; single copy, 6d.

MESSRS. PETER WATSON AND CO.

STOCK AND SHARE DEALERS,

54, OLD BROAD STREET, LONDON, E.C.

(Over the Bank of South Australia).

BANKERS—THE ALLIANCE BANK (Limited).

M R. ALFRED E. COOKE,
STOCK AND SHARE DEALER,

78, OLD BROAD STREET, LONDON, E.C.

(Established 1853.)

Transacts every description of Business in ENGLISH FUNDS, RAILWAY STOCKS, and MISCELLANEOUS SHARES.

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TRADING COMPANIES' SHARES (including COTTON SPINNING) dealt in at close prices.

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Every description of STOCKS and SHARES, either for INVESTMENT or SPECULATION, BOUGHT and SOLD at net prices.

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SPECIAL BUSINESS AT LOWEST PRICES.

M INES—LEADHILL SHARES. SPECIAL BUSINESS

and EXCLUSIVE INFORMATION.

COPPER MINES—CATHEDRAL MINE, in the rich Gwennap District. Full particulars, and SPECIAL BUSINESS.

RAILWAYS, FOREIGN STOCKS, &c. HOW TO ACT.

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INVESTMENTS—SAFE AND REMUNERATIVE.

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THE FOLLOWING SHARES (OR PART) FOR SALE AT NET PRICES:—

NET PRICES:—

30 Aberdaunant, 15s.	50 Great West Van, 10s 3	5 Pateley Bridge, £3.
10 Argentia Gold, £6 1/2.	5 Great Laxey.	10 Pennant.
40 Bampfylde.	5 Glyn, £2 1/2.	50 St. Patrick.
50 Belstone, 2s.	10 Grogwinion, £5 1/2.	15 Sweetland Creek, 6s.
20 Blue Tent.	50 Javali.	5 Tankerville.
20 Cathedral, new shares.	10 Llanrwst.	5 West Goginan.
30 Cathedral, old shares.	5 Leadhills.	5 West Wye Valley.

Where QUOTATIONS are NOT INSERTED, the LOWEST PRICE of the day WILL BE TAKEN.

SOME of the ABOVE may be PURCHASED for SETTLEMENT END of DECEMBER on PAYMENT of 20 per cent. on deposit.

ALFRED E. COOKE, 78, OLD BROAD STREET, LONDON.

SPECIAL.—Mr. COOKE having visited LEADHILLS MINES during the week, the publication of the November number of the "Special Investment Circular" has been postponed until Monday next. Price One Shilling; gratis to clients and correspondents.

Edited and published by—

M R. ALFRED E. COOKE,
78, OLD BROAD STREET, LONDON, E.C.

(Established 1853.)

M R. JAMES STOCKER, STOCK AND SHARE BROKER,
2, CROWN COURT, THREADNEEDLE STREET, LONDON, E.C.

[Established 1848.]

BUSINESS transacted in all kinds of STOCK EXCHANGE SECURITIES, also in every description of BRITISH and FOREIGN MINING SHARES.

SPECIAL BUSINESS in the following:—

BRITISH MINES.

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East Van, £8 1/2.

Great Laxey.

Clementina, £2 35s.

Great Dylife, £4 1/2.

Pateley Bridge, £3 1s.

Richmond, £10 5-16.

Tankerville, £10 7-16.

Devon Consols, 6s.

West Chiverton, £1 1/2.

Roman Gravels, £1 1/2.

Frontino, £3 1/2.

I.X.L., 21s.

South Aurora, 6s. 9d.

Cedar Creek, 10s.

Malabar, 9s. 9d.

Port Phillip, 8s. 6d.

New Zealand Kapanga.

COLLIERIES.

Cardiff and Swansea.

Chapel House.

JAMES STOCKER, SWORN BROKER.

Consols, Foreign Bonds, Railways, Bank, Telegraph, Gas, and all miscellaneous Shares bought and sold, and fortnightly accounts opened for same. Shares sold for forward delivery on receipt of cover. List of prices and every information for warded on application. References given and required when necessary.

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Royal School of Mines.

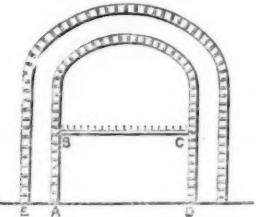
PROF. SMYTH'S LECTURES ON MINING—No. LII.

[BY OUR SPECIAL REPORTER.]

There is one method of aiding natural ventilation by dividing the level which is common in metalliferous mines—the putting in of an "air solar." The lower part of the level, in fact, is partitioned off by a floor; timbers being first laid across, after the manner of forming a regular roadway, then those covered by close fitting planks, and finally the whole made air tight by means of clay, or some such material. The air will then pass along this air solar in one direction in the end, and in the reverse direction in the upper part of the level. In the thick coal of the Staffordshire district an "air-head" is driven—that is to say a small drift, generally not more than 2½ to 3 ft. by 3 or 4 ft., and small communicating passages cut through into the level, as is done when there are two parallel levels. In some cases this head is driven by the side of the level, but it is better, as proposed many years ago by Mr. Ryan, that it should be driven in the top of the seam, since in that case when you come to work the total height of the coal you can drain off into this top head the specifically lighter gases, including, therefore, the fire-damp; whereas with the head at the side the fire-damp is apt to accumulate along the top of the level. Mr. Ryan seemed to think his plan applicable in all cases, but there are very many cases in which it is quite impracticable. Mr. N. Wood's experiments showed what large volumes of air could be drawn through a mine by natural ventilation. In the great Hetton Colliery, under his management, 22,000 cubic feet of air per minute were passed, of which it was calculated that 100,000 feet were due to natural ventilation. In another instance, where the temperature at the bank was 43°, and the air in the downcast 45°, the return was 63°, so that there was a difference of 18°, which was found sufficient to give a circulation of 36,500 cubic feet per minute. There may, however, be many cases in which during the winter, when there is a great contrast between the temperature of the external air and that in the mine, there may be a great impelling force; at another season the temperature may be so much more equal that the current is checked, or stopped; and then it will be necessary either to apply artificial means or to stop the working for a time. There is another consideration still; if one district of a colliery is safe enough to be worked with naked lights, while another part is fiery and requires safety-lamps, as long as the current of air passes the naked lights first, then goes along the fiery district and directly into the upcast, all may be well. But if, owing to any cause, the ventilation be checked or reversed, then the fiery air will come in contact with the naked lights, and serious consequences very probably follow. In such a case it becomes absolutely necessary to provide artificial means for maintaining the current always in the proper direction. If the space from which the foul air is to be removed is very small, as, for example, a small side working, the men will very frequently "dust it out," occasionally with a cloth, or even with their jackets, agitate and thus mix and renew the air therein, and this may suffice if there be a good current passing close by.

With regard to the means for promoting artificial ventilation, we may first look to the method so very commonly employed in the collieries—the use of a furnace for the purpose of giving sufficient lightness to one column of air. The most simple way of doing this is what may be frequently seen in the midland districts—letting down a frame filled with burning coals into the upcast shaft. As this is usually lowered to only a small distance down the shaft, it follows that only a portion of the air is heated—that from the fire to the surface. A modification of this sometimes used is to connect the top of the upcast with a closed building (to which access is obtained by means of a double door, after the manner of a lock), in which is a fireplace connected with a stack. There are two objections to this latter method—that if the stack be small you withdraw the current, and cannot expect to obtain so large a circulation as if the stack was of about the same diameter as the shaft. The second point is that the amount of heated air, measured by the height of the column, is comparatively a mere trifle compared with the depth of the shaft that it has to serve. This compares very unfavourably with the method of placing the furnace at the bottom of the shaft, where you have a large column of heated air, contrasting very powerfully with the weight of the column of cool air in the other shaft. Therefore, in most collieries where a brisk circulation is needed, they have seen the necessity for placing the fire at the bottom. You may see these fireplaces of all sizes, from that of an ordinary grate to a kitchen range, and some others of very large size. Take the case of a pit of not very large size in North Staffordshire, we shall find the furnace constructed (Fig. 37) of a straight

Fig. 37.



wall (A B C D) 3 ft. high, then the firebars supported on a girder of iron, and above that an arch 3 ft. high, the breadth of the whole (A D) being 6 ft. This is inclosed in firebrick, and where special care is taken a second arch is built, leaving between the two an air space, through which the air may circulate, so as to prevent any danger of setting fire to the adjoining coals. Some serious accidents have occurred from the firing of the coal by the furnace, and great attention has been drawn to the matter. It is desirable to isolate the furnace as far as possible from the coal, and even from any dark carbonaceous shales which occur with the coal. In the large Clay Cross pits the furnace has a width of 9 ft. from wall to wall, the girder is put in at a height of 4 ft. 6 in., and there is a height of 5 ft. above the bars. As a rule 3 ft. beneath the bars appears to be sufficient. A fire of this kind well kept up is, perhaps, one of the most satisfactorily burning fires as regards the full consumption of the coal. In some cases, where the air comes in below the bars, the smoke may be seen in a magnificent blaze, with not a particle of smoke coming away from it. To obtain a greater velocity through the furnace the upper portion of the arches may be bricked up, or it may be better to have a sheet of iron moving on slides in front, which can be slid up and down, and may be used to regulate the draught according to circumstances. If you have a large area to deal with you may either have several shafts, each with its own furnace, or you may have several furnaces playing into one shaft, as, for example, in Hetton Colliery three furnaces into shaft 15 ft. diameter. The simplest plan of conveying the air to the furnace will be that of letting the return current pass directly along the drift through the furnace, part going over the fire, and part, perhaps, between the arches or through side passages, and so into the shaft; or part of the air may be led by a pipe which opens under the bars. But if the return air is foul, or likely to be suddenly fouled by blowers, then obviously you must not bring it into close proximity with this open flame. In such a case the return current will have to be divided, only a safe portion being led to feed the furnace, the rest being carried by what is called a "dumb drift" into the shaft, at a distance of at least 30 or 40 yards above the furnace, so as to be out of reach of sparks and flame. With a good ventilating furnace an average temperature of 150° to 160° Fahr. can be obtained in the upcast. Sir Goldsworthy Gurney, many years ago, in his endeavours to supersede the ventilating furnaces by his project of a steam-jet, raised several objections to the action of the furnace. For example, there was what he called the invisible brattice, and this can be observed in an ordinary kitchen fire, where if the chimney be too large, or the fire not properly proportioned to it, there will be a tendency for the air to steal down

the sides, and thus to check the heating of the shaft. Then he made a great deal of the furnace paradox, that you cannot readily get more than a certain effect out of a given furnace. Within certain limits there is a good deal in this argument; for instance, if you have a certain area of fire-bars burning a certain quantity of coal, beyond a certain point doubling the fuel will not give you double the effect; you will require considerably more than double the amount of coal to give you a double effect. But this can be very readily overcome, as by putting in a second furnace, or by having a larger area; or you may have a large compound furnace, as the one at Hetton Colliery, 26 ft. long. This furnace, introduced by Mr. Daglish, has a door at one extremity, which can be opened partially or fully, or closed entirely, according to the requirements of the feed; the air may be supplied by any of the methods mentioned above. At the side of the furnace are a number of doors, at which the men will usually be occupied. The advantage of this great length of fire-bars is this, that under ordinary circumstances you may require only a moderate amount to be covered with fire, but if dangerous weather comes on, if the barometer and thermometer indicate the approach of weather in which the evolution of the gas is more liable, or if on examining the works you find a quantity of gas present, you give orders at once for the fire to be increased, and this can be done to a very great extent by using more of the space afforded by the bars. And, again, with a small furnace, whenever it is necessary to clean it out the ventilation will necessarily be considerably checked, whereas with a large furnace you have only to take the fire to another part while the first is being cleaned. The advantages connected with these large compound furnaces have caused several to be erected of late years, thus there is one in the Monkwearmouth Colliery 12 ft. square, and another large one has been erected in the mine in North Wales belonging to the British Iron Company. This latter has a width of 10 ft., the girder has a height of 1 ft., with 3 ft. below and 6 ft. above it, making the total height of the arch 10 ft. Besides the arch over the bars there is a small arch on each side, which runs round the furnace to the shaft, and then over the whole is a large arch of nearly 27 ft. across. The length of the bars is 16 ft., divided into four sets. The furnace is intended to be fed from each extremity, and in this case, as it ought to be in many cases, the furnace is fed with fresh air, "scale" of air equal to 30,000 ft. per minute being provided for the purpose. By the combustion of a suitable quantity of coal in this furnace a circulation equal to 220,000 cubic feet is obtained.

Sir Goldsworthy Gurney, besides stating these objections to the common furnace, proposed that it should be superseded by the use of a steam-jet, and he persuaded some gentlemen of both Houses of Parliament that this change would be so advantageous that it was endeavoured to make it compulsory to abandon the furnace and introduce the steam-jet. In the northern districts, however, many careful experiments were made, which resulted in showing that the steam-jet could not be employed except under peculiar circumstances, and with the combustion of an enormous quantity of fuel. There is no doubt that by a properly constructed furnace you get larger volumes of ventilating air than by any other method whatever. A pipe was carried and turned down the shaft, ending in a jet of ¼ in. to ½ in. diameter, and steam of high pressure was supplied, this tended to force the air down the shaft; at the other shaft a pipe was carried to the bottom, and the jet turned upwards, the steam thus tending to carry up the air with it, the jets acting as it were the part of pistons. A number of jets were employed instead of one where a greater effect was desired. In the experiments carried on in the North (which the lecturer had seen himself) showed that the quantity of air which could be got to pass into the upcast by any variation of the steam jet was very far surpassed by a furnace after it had been lighted for one hour only. Moreover, with the steam jet, two or three men at the fires could not fire fast enough, whereas one man, who is perhaps unfit for laborious work in other parts of the mine, may suffice to attend to the ventilating furnace.

Among other methods of ventilation we may look first at the system of falling water. The drops of water falling down a shaft have a more or less mechanical action in forcing the air down, and this principle may, under certain circumstances, come into play most advantageously. For example, in the case of an accident or explosion, or under other circumstances, when you cannot get down to light the furnace, the pumps may be allowed to run over, and the water to fall down the shaft, and by that means a good deal of air may be got down into the mine. But this method (the lecturer thought) has never been satisfactorily shown to be capable of throwing down a sufficient quantity of air for ventilation, and probably there are very few cases in which it would be desirable to adopt it. There are two or three methods of using waterfalls for forcing air (besides the employment of it to work a fan) which have met with great application. One of these is the *trompe* of the Pyrenees. The principle is briefly this—a stream of water falls through a vertical wooden pipe, in the sides of which are a number of oblique holes through which the air is drawn in by the falling water. The water falls into a barrel or box below, in which is placed a large stone or iron sheet to break up the column; there is an exit for the water in the lower part, and the level of the water is always kept above this. In the upper part the air collects and can be led off by a pipe from the top to the place where it is required. Another method is that of having a pipe laid to the bottom of the shaft, a conical piece pointing in the direction of the level there where the air is to be conducted; a jet of water then playing into this conical piece (collected in an overflow vessel beyond) will carry the air through it, and the air will pass forward into the level. This has been adopted at some of the Cornish mines, but it is not a method which can be used on a large scale.

MANCHESTER GEOLOGICAL SOCIETY.

The annual meeting of members was held, on Tuesday, at the Literary and Philo-ophical Society, Manchester—Mr. J. DICKINSON, H.M. Inspector of Mines, occupying the chair.

Mr. J. E. FORBES, F.G.S. (the hon. secretary) read the report and financial statement for the past year. From the former it appeared that the receipts, including 44/- brought forward from last year, had amounted to £164/-, and the expenditure to 195/-, leaving a balance of 31/- due to the treasurer.

The report stated that as far as concerned the material condition of the society in respect to its body of members and finances it was in a satisfactory state. The number of members, after balancing the gains against the losses during the year, was practically unaltered from that of last year, whilst the invested fund had been increased from 500/- to 600/. Owing, however, to a heavier expenditure than usual, arising chiefly from the principal cost of printing in the preceding year being included in this year's bills, and the exceptional cost of new books and of geological maps, the outlay had exceeded the income. The council felt sure the society would concur with them that it was desirable to increase the library so far as the funds would allow by the purchase of standard works on geological and mining science, and especially on maps which would throw any information on the geology of Lancashire and Cheshire. The council regretted very much that they were not able to report to the members as favourably of the ordinary meetings in the session as was fortunately the case with their predecessors in 1875. It had been frequently complained of that members did not render the council that support which was essential to the life and vigour of a scientific society pursuing and studying a science, both with a practical and a commercial, as well as with an intellectual, object. The council could not believe they were exceeding their proper duty if they reverted to the very favourable circumstances both in the condition and in the locality of the society, which had nearly all the conditions which ought to conduct to a more active state of scientific enquiry and work amongst its members. It was well known that many of the members were in an excellent position to contribute papers to the meetings, embracing their personal observations and practically acquired knowledge both on mining and geological matters, and the council wished to make an earnest appeal to the members who were engaged in the management and working of the coal and iron mines in South Lancashire—one of the most important and

busiest districts in the mining world—to give their attention to the claims of the society and aid the council to provide papers of interest for the meetings of the members, so that the omission which they had at present to lament might not recur at the future meetings of the members. The council also regretted that from circumstances of an urgent nature in business the meetings of the members had been held without the presence of the President upon any one occasion, and they still more had to regret that so few papers on subjects for discussion had been brought forward during last session, even in sciences so fertile in new discoveries and theoretical views as geology and mining. In the last report the council felt it necessary to draw attention to the action of the Senate of the Owens College in their manner of carrying out the articles of agreement with reference to the Geological Museum, and they regretted that the conditions for gaining admission to the Museum were neither in the spirit nor the letter of the agreement. This was a matter which they hoped their successors would not lose sight of, but that they would be able to report at the next meeting that a proper rendering of the agreement had been adopted by the Owens College.—On the motion of Mr. HARDWICK, seconded by Mr. GRIMSHAW, the report was received and adopted.—The treasurer's report was also presented, and, together with the report of the council, was approved.

Officers for the ensuing year were appointed as follow:—President, Prof. W. Boyd Dawkins, F.R.S., F.G.S. Vice-President, A. Egerton, M.P., Lord Gerard, Mr. Oliver Heywood, and Mr. G. Ferrel Smith, F.G.S. Ex-officio Vice-Presidents: Mr. James Heywood, F.R.S.; Mr. G. W. Ormerod, F.G.S.; Mr. E. W. Binney, F.R.S.; Sir J. P. Kay-Shuttleworth, Bart.; Mr. J. Dickinson, F.G.S.; Mr. A. Knowles; Mr. G. C. Grenwell; Mr. J. Aitkin, F.G.S.; Mr. J. Knowles, M.I.C.E.; Mr. Thos. Knowles, M.P.; Prof. W. Boyd Dawkins; Mr. Gifford Smith. Treasurer: Mr. H. M. Ormerod, F.G.S. Secretaries: Mr. J. E. Forbes, F.G.S.; and Mr. J. S. Martin. Council: Messrs. H. H. Bolton; R. D. Darbshire, F.G.S.; Ralph Fletcher, jun.; G. C. Grenwell; C. Hardwick; J. Higgins; W. H. Johnson, B.Sc.; G. Peace; J. Plant, F.G.S.; J. F. Seddon; A. W. Waters; and G. Wild.—The usual votes of thanks were passed, and the CHAINMAN having announced that the President (Prof. Dawkins) had promised a paper on the Sub-Wealden Explorations, which he had no doubt would be of considerable interest, the proceedings terminated.

THE BRISTOL COAL FIELD.

In last week's Journal, when recording the proceedings of the Bristol Mining School, we briefly noticed the very elaborate paper of Mr. Handel Cossham on the Bristol Coal Field, the first of the course of lectures by practical engineers and colliery managers, arranged to be given during the season to the students of the School and gentlemen connected with local mining and manufacturing industries.

Mr. COSSHAM expressed his opinion that the Bristol coal field, the Dean Forest coal field, and the Welsh coal field, though now miles apart, were at one time one basin, the division being caused by various upheavals and depressions of the strata, extending over vast periods of time. The same characteristics of the strata were observable in each field, the lower series consisting of white ash coal, especially valuable in the manufacture of iron on account of its freedom from sulphur, and which was followed by valuable seams of fire coal. This was succeeded by smith's coal, above which came the pennant, and above that beds of bituminous gas-producing coal. The Bristol field embraced an area of about 150,000 acres, of which less than 50 square miles were exposed to view, and probably contained 6,000,000,000 tons of coal yet to be worked, and as during the last 250 years they had only taken out 120,000,000 tons, it would appear that unless the generation that succeeded had more energy than the present world must be 4000 or 5000 years older before the store was exhausted. The school, the students of which had the honour of addressing, had turned out distinguished men in the past, and he hoped it would turn out more in the future. The speaker went on to define the boundaries of the Bristol field, and said that it was almost divided into two portions in the centre by an anticlinal axis running east and west between Bristol on the west and Wick on the east. They would observe by the map that at these points on both sides the basin had been pushed nearly one mile into itself on each side, the result of which had been to cause the centre of the field between these points to lift up at least 3000 ft., giving a northern dip to the strata on the one side and a southern dip to the strata on the other side of the anticlinal line.

The field contained 45 seams of coal, with an aggregate thickness of 90 ft., and extending through strata 3000 ft. in depth, the seams differing greatly in thickness and character. Thus they vein at some places 12 to 13 yards apart, and in others they would form one vein. There were also great variations in thickness and quality. The speaker next referred to the wide range of geological research afforded by the field, saying that the geology of nearly all the world could be studied by studying that of the Bristol district, and explained in detail the position, &c., of the various deposits in the field. The "faults" or dislocations of strata of the field were next dwelt on. Some of the most remarkable of these were to be found on the sides of the Mendips, in the neighbourhood of Radstock and Vobster. For the explanation of these faults they were deeply indebted to Mr. G. C. Greenwell and Mr. J. McMurtrie. Here they could distinctly see the dislocation caused by the elevation of the Mendips. The disturbance at Vobster was such that the seams were forced into a vertical position, whilst at Radstock the upper seams were folded over each other, thus giving that place a double length of the same vein. There was a very distinct fault to be seen in a cutting on the Midland Railway branch line near Bitton Station, where there was a drop to the east of at least 600 ft., bringing the Lias and New Red Sandstone opposite the pennant, and which fault seemed to have stopped mining enterprise many miles south and east. Faults at Ovet and Kingswood were next explained, and an opinion expressed that the future explorations in the Kingswood field would completely unfold that intricate district. Faults were often very difficult and expensive things to deal with, but much expense would be saved if the direction of the forces by which they were caused were carefully studied. Mr. Cossham then spoke of the value of the pennant as a means of determining the position of the seams of coal, as by careful attention to their dip the position of the coal seams could be ascertained.

Mr. Cossham then proceeded:—I am now anxious to call your attention to a fact that I think may hereafter turn out to be of vast importance to this coal field, and that I think has not been previously noticed. The pennant rock has hitherto been considered, and in fact is to a large extent, the watershed of the district. It seems to catch all the drainage of the surrounding country and pour it upon any unfortunate man of enterprise who tries to sink through it without mercy, and certainly without stint. The experience of sinking in the pennant has hitherto been only on the outcrop of the formation, and there the experience has been as I have described. I believe my firm is the first who have ventured either by tunnelling or sinking to deal with the pennant towards the centre of the field and the centre of the pennant deposit, and I confess that it was with some fear and trembling that I ventured to pierce the watery strata at a depth of 250 yards, where, as everyone knows, it is expensive and difficult to deal with large feeders of water. I do not pretend that my experience yet is conclusive of the theory I am about to propound—that the pennant rock while very siliceous and jointed near the outcrop and for some distance down, and full of water, becomes less siliceous and more argillaceous in the deep, more close in texture, and almost impervious to water. At any rate, I have already sunk over 50 yards, and tunneled 250 yards below the upper series of coal veins, on what I think ought to be hard watery pennant strata, and which at the outcrop I believed would be so. But I have found in it red mottled argillaceous ground, with here and there bands of close grained stone, but no water, and I almost begin to think whether I shall not solve a problem which may prove of immense benefit in the development of this coal field by showing that it may be possible to sink through the pennant to the lower series in the deep without the risk that has heretofore been supposed to attend sinking through this formation. I have about 15 or 20 yards more to reach the level which I wish to carry our new south pit, and if I am as successful in this portion as I have

been in that I have already passed through I shall feel that a great problem has been solved relative to the future development of this field. The overlie of the secondary rocks in the Bristol coal field is one of the greatest difficulties to deal with in mining operations in this district. The overlie of the secondary geological formation conceals the greater part of the coal field from view. Out of the 20 square miles, which, as I have told you, is about the area of the coal field, some 190 square miles is unexposed, and the existence of the coal strata below has to be conjectured and inferred. There are few districts in the world from which the coal measures are reached at greater depths below the surface through overlying strata than in this field, several of the Somersetshire pits having passed through the whole of the Liias and New Red formations, the greatest thickness of the New Red proved in the field I believe to have been about 70 yards, near Compton Dando. Four-fifths of the Bristol coal field is covered with a mantle of New Red of variable thickness, and there can be no doubt that this, coupled with the powerful rival that the South Wales coal field must always prove to our more limited area, has hitherto retarded the development of mining enterprise in the district.

A very remarkable phenomenon occurs near Holcombe, and from there to Mells, for not only are there two very remarkable patches of mountain limestone to be found there overlying the coal measures without interfering with the regularity of strata below, and which, therefore, must have been toppled over from the great mass of the same rock that forms the Mendip Ridge, a mile to the south, when that ridge was uplifted, but there has also been most remarkable thinning out of the Secondary rocks in the district, so that at Mells the inferior Oolite lies only a few yards in thickness, resting (of course, unconformably) on the coal measures, the whole of the Liias and the New Red having been denuded off an anticlinal ridge that runs through that district. I know of no other case in England, and probably none in the world, in which such a fact occurs, and it may give rise to the hope that many as yet unknown ridges may exist under the Secondary, and even under the cretaceous formations, where coal measures may be met with at less depths than could be expected from a superficial view of the surface deposit. This fact opens up wide subject for geological speculation and enquiry. I have often thought the great landed proprietors of the East and South of England would do wisely to combine for the purpose of carrying out some half-dozen or dozen trial borings in various districts through the Secondary and upper deposits, and if these borings were fixed upon by Prof. Ramsay, at the end of our geological survey, and carried out under eminent practical engineers, the result could hardly fail to add to the value of property and the general wealth of the nation.

Following up these suggestions, let me now call your attention very briefly to the question whether the coal field probably extends beyond our present known boundary. It is an important question, and one that may largely affect the future of our district and country, and it is worthy of note that every investigation we make into our mineral resources seems to extend our ideas of future supply, and to give us hope that our population will not be starved, nor our manufacturing or steam-power crippled for many generations yet to come.

I believe the districts around this coal field will prove no exception. On the west of Patchway and Ovet I have already shown you that there are geological indications, amounting almost to positive proofs, that the coal field repeats itself to the west under the Severn, and probably extends south to the flat and steep Holmes. Then, south of the Mendip range, I can see no possible geological reason why coal should not be found. All along the north flank of that range the seams are as thick, the coal as good in quality, and the beds as numerous as in any part of the coal field; and, as I have already shown, the Mendip chain has been uplifted since that coal field was formed, and was, in fact, protruded through the coal measures. It seems almost impossible to suppose that the coal measures did not pass over, and now, probably, be embedded, deep as it may be, but still within reach, below the peat deposits of Glastonbury and the greater part of Mid-Somerset. This is a large question, and requires much more time than I may have at disposal fully to argue out the pros and cons. Then, on the eastern side, near Wickwar, there is a patch of mountain limestone, discovered by the late Mr. H. Saunders, dipping to the east, showing either the pressure of a fault, of which there is no surface indication, or what is more probable, the result of an anticlinal in the limestone of that district, as at Patchway on the west and the Mendip range on the south, giving indication that the coal strata passed over the eastern limestone ridge and away on the east—who knows where and how far? I have no objection to hazard the opinion, and you may take it for what it is worth, that it extends from there with, no doubt, certain intermission from thence to the coal fields of France and Belgium on the east, and probably under most of the newer formations of the east and south of England. I am not one of those, therefore, who share the fear that the whole of our coal deposits will soon be exhausted.

At some future time I shall have no objection to give you in detail the facts and arguments on which I base the opinion that coal will yet be found under a great portion of the South-East of England. A few remarks on the general formation of our coal basins will, I think, show you that I am not visionary in the opinion I have ventured to express. Our present knowledge of our own coal field, and especially the Welsh and Forest coal fields, show that they exist in basin form—that is, in vast hollows like inland lakes, and though more than half the area of the known coal fields of England are, like our own, basin shaped. Now, what does this basin-face of our coal fields indicate? Why, that prior to the deposition of the Permian, New Red, and later deposits, the whole of the carboniferous and Palaeozoic strata was thrown into vast anticlinal and synclinal folds, resulting either from upheavals or depressions of the earth's crust, possibly also from the shrinkage of certain portions, and the crumpling of other portions by lateral pressure. Then, still, prior to the deposition of the Secondary rocks, vast floods swept over the uneven surface of the globe, denuding, as in the case of the Mendip range, thousands of feet from the upheaved ridges, leaving only the moderate elevation that we now see. Let your thoughts range over a globe thus swept and denuded after the deposit of the coal measures and prior to the deposition of the Secondary formation, and you have the best and most accurate idea than can be given of what actually took place, and you have also the causes from which the basin-shaped form of our coal fields has sprung.

Allow me now to summarise these sources of our coal field as compared with the mineral resources of the country generally. Taking the Coal Commissioners' report of 1871 as the basis of my calculations, I estimate our coal field to contain about 1-17th of the fuel of our country, for, while the whole of our coal fields are supposed to have one hundred thousand million tons of coal yet to work, we are supposed to have six thousand million tons yet undeveloped; we ought, therefore, to be raising 1-17th of the fuel of the country at the present time, instead of which, while the whole country is raising perhaps 125,000,000 tons a year, the Bristol coal field only turns out 250,000 tons a year, considerably more than one-fifth of which I am proud to say the firm to which I belong brings to the surface. It follows, therefore, that with 1-17th of the mineral resource of the country we only provide 1-100th part of the fuel of the nation, thus showing there is room for enterprise and capital in the Bristol coal field, and, I will also venture to add, for mining skill and talent such as I hope this School will help to develop and send out. I have, I fear, challenged your attention at too great length on a subject which I need hardly say is deeply interesting to me. I feel that so much of our future as a country depends on the wise development and economical use of our fuel that I can hardly feel that our attention can be too frequently called to our coal fields and our mineral resources. Like all the gifts of Jehovah, coal is given to the world with niggardly hand. The formation of that coal is the result of a wisdom higher than our own. The place it occupies in the geological range of the crust is also the result of Divine pre-arrangement. The upheavals and depression that have brought it within reach in certain districts, and preserved it for future use in others, have been the result of a power that only a Divine hand can wield. But to us has been assigned the honour of developing and bringing out for the use of the human race these vast resources that have thus been stored by infinite wisdom, goodness, and power. It may

be, and no doubt is, only a small and humble part that we have to play in the matter, but let us play that part skilfully, and do our best to secure at the least cost, and with the least risk to life and limb, those treasures that a gracious Providence has provided, and thus I believe even the industries and daily duties of life may be made to minister to the growth both of intellect and heart, for while our intellect will be sharpened by the study of mining enterprise, and the application of science and machinery thereto, our higher nature may also be cultivated by feeling that while primarily working for our own profit and advantage, yet that our efforts and skill are helping to build up the national greatness, and minister to the comfort and wealth of thousands of the human race other than those engaged in mining pursuits.

The Chairman moved a vote of thanks to Mr. Cossingham for his practical and eloquent lecture. They must all have listened to it with great interest, and especially to the future of the district he had mapped out. It was comforting to know that they had plenty of coal left, and he was sure they would be glad to hear it. (Applause.) He hoped that what Mr. Cossingham had said might help to allay the panic that existed in some minds upon that subject. He trusted that the anticipations he had formed of the future of the Bristol coal district would be realised, and that capital and enterprise would be attracted to the district. He reminded his hearers that Mr. Cossingham had done much for that School. They were aware that the School last year came under the management of the Colston Trust, and soon after they assumed the reins of power Mr. Coomber, with that anxiety which he always showed for the purpose of scientific education—(applause)—laid before the governors a plan for the resuscitation of the Mining School. The governors accordingly re-opened the School, and he was glad to say that students had resorted to it in quite as large numbers as they expected. He believed he was right in saying that it was already one of the most important mining schools in the country outside London. (Applause.) They had resolved also to resuscitate the lectures by eminent practical men, and they had to thank Mr. Cossingham for kindly giving the first. (Applause.) As long as 20 years ago Mr. Cossingham took great interest in the School, and assisted Mr. Herbert Mackworth in starting it, so that he might say he was the founder of the school. They also had to thank him for so kindly throwing open his works to the students, so that they might obtain practical insight into the working of mines. He expressed a hope that the School would continue to turn out men who would do credit to it and to the city. (Applause.)—Mr. H. Bennett seconded the motion, which was carried with acclamation.—Mr. Cossingham, in acknowledging the compliment, said he thought more of these schools should be established, so that students might obtain good practical knowledge without being put to the expense of going to London to get it.—A cordial vote of thanks was passed to the Chairman.

THE NORTH LINCOLNSHIRE MINING DISTRICT.

The members of the North Staffordshire Institute of Mining and Mechanical Engineers have had their second excursion of the season, when they paid a visit to Frodingham, North Lincolnshire. That district has only been known as an iron-producing district for the past 15 years, during which its development has been exceedingly rapid. Frodingham, the centre of the district, is situated on the Manchester, Sheffield, and Lincolnshire Railway, which connects it with the ports of Hull and Grimsby.

From a paper prepared by Mr. George Dove, jun., and submitted to the Iron and Steel Institute at their recent meeting in Leeds, it appears there are now 21 blast-furnaces in the district, of which nine are in blast and 12 are out of blast. The following firms also work mines and convey the stone to their several works:—The Parkgate Iron Company (Limited), Staveley Coal and Iron Company (Limited), and Messrs. W. Cooke and Co. of Sheffield. The bed of stone is covered by varying thickness of drift sand, constantly being shifted about by high winds, so that the agricultural value of the surface is very low indeed; in fact, before the discovery of the ironstone the country in and about Frodingham was little better than barren moorland, and the village itself but a small hamlet. It is now rapidly extending itself; the price of land for all purposes has enormously increased; and Frodingham seems destined before long to assume the appearance and size of a busy town. The bed, which is almost entirely free from faults, inclines gently to the east, but where it is now being worked, at and within $\frac{1}{2}$ mile from the outcrop, the amount of "baring" required is very small, in no place exceeding 3 ft. The labour employed in winning the stone is of the commonest and the most unskilled description, blasting only being required in getting the stronger portions of the bed; the whole operation is simply one of quarrying. The deposit is not of very regular formation. It consists of bands of stone—some consolidated, others unconsolidated—of various appearances, mechanical conditions, and compositions, which are again broken up by bands of ferruginous limestone of varying thicknesses. The average quantity of iron in the stone, rejecting all the inferior bands, is 28.71; of manganese, 1.75; and of lime, 12.8 per cent. The chief difficulty encountered in the smelting of the stone is the control of the amount of lime in the charge, which is, unless the stone be very carefully selected, liable to become excessive, and disorganisation of the furnace the result. So great has the difficulty been experienced in the selection of the stone that it has been found advantageous to introduce a certain proportion of ore from other districts for use as a mixture, and the ore that is now in general use, in proportions varying from one-eighth to a quarter, is obtained from Lincoln. The analyses of this stone show it to contain 42.64 per cent. of metallic iron. By its use the care required in the selection of the native stone is lessened; yet that by proper selection of the Frodingham stone it is not necessary to use any mixture is proved by the fact that the Frodingham stone is now and has been smelted for years without any addition of other stone or fluxing material whatever. Another difficulty is the amount of moisture present, which in wet seasons becomes very high. At present all the stone is used in its raw state, but it seems very likely that by the adoption of suitable means of drying or calcining before putting it into the furnace great advantages would result. The fuel employed at the various works is mainly obtained from the Durham district, one firm alone getting its supply from South Yorkshire, though it is only within the last three years that this north country coke has come so extensively into use. The question is simply a commercial one. Respecting the iron made, it is mainly in demand for forge purposes, the manufacture of bars, tin-plates, and wire. For the last-named purpose it is in peculiar request, and it appears that its adaptability is owing to the manganese it contains. As a foundry iron it is singularly fluid, and well adapted for mixing with Cleveland, for which purpose it is now being extensively used as a substitute for Scotch. In 1866 the total quantity of iron made in the district was 13,765 tons; in 1870 it had increased to 31,690 tons; while in the year 1875 the quantity had still further increased to 110,000 tons. The yearly quantities of stone raised and consumed show correspondingly large increases—from 2000 tons in 1859 to 626,627 tons in 1875. Taking the field generally, there is no doubt that it contains a valuable and practically inexhaustible supply of stone, from which a high-class iron for special purposes can be made; that the difficulties attending its varying chemical composition and character by careful selection can be removed, and a uniform mixture obtained for the furnace; and also that, by the adoption of suitable means, the excessive moisture might be got rid of, and uniformity also established in this particular. The whole question of success or non-success in the smelting of the stone turns upon this matter of selection—upon the proper mixture of the materials required to produce a fluid cinder. With this proper selection of the stone understood, and the means of carrying it out, there is not at the present time any more difficulty in handling it in the furnace than in treating the more regular stones of other districts; while, with these conditions, the results will compare more favourably for Lincolnshire, both commercially and in respect to the quality of the iron produced.

The excursionists, numbering upwards of 50, proceeded by special train, leaving the Potteries early in the morning, picking up members at the various stations en route, the last calling-place being Godley Junction, where the members were joined by the President of the Institute, Mr. Daniel Adamson, of Hyde Junction, who is Chairman of the North Lincolnshire Iron Company, at whose works at Frodingham they were met by Mr. Tosh, the managing director, the train proceeding there along a siding. After partaking of some refreshments in the office of the company, the visitors were conducted through the works. This company have four furnaces 20 ft. in diameter and 60 ft. in height, and the blast is supplied by three vertical engines of 550-horse power collectively. There are 23 pumping and other steam engines, slag-breakers, and mortar-mills spread over a considerable length, the steam being carried by 13 boilers. The first furnace was built in 1865, the second in 1872; the other two in 1875. The blast is heated by 23 hot-blast stoves, but only two of the furnaces are at present in blast, and they are capable of producing 300 tons of pig-iron per week. The works are laid out on the newest principle, the machinery being exceedingly fine. After inspecting them the visitors proceeded to one of the quarries, and were surprised at the wonderful thickness of the face of the stone, and the ease with which it can be procured as compared with the recovery of the thin seams at great depths underground in North Staffordshire.

By the time the quarry had been visited the party had to reassemble, and proceed to the Blue Bell Inn, Scunthorpe, for luncheon. According to the programme, they were to have visited several of the other works in the immediate neighbourhood, the owners of which were most willing to show all that was to be seen, and hospitalitely entertain their visitors into the bargain. However, owing to an unfortunate accident to two luggage trains at Crowden Station in the morning, by which the line was blocked a considerable time, the special train was 2½ hours late in arriving at Frodingham, thus materially shortening the time to be spent there. A portion of the members did inspect the works of Messrs. Cliff, the Frodingham Iron Company, and were highly pleased with what they saw there.

At the luncheon the chair was taken by Mr. ADAMSON, and the vice-chairs by Mr. J. H. GODDARD (Longton) and Mr. G. BARKER (Kidsgrove). After the repast the loyal toasts were honoured. Mr. GODDARD then proposed as the next toast "The Ironmasters of North Lincolnshire." (Applause.) Staffordshire people prided themselves on their courtesy and hospitality; but after their reception that day they must pale their faces before the men of North Lincolnshire. They were deeply indebted to the ironmasters of North Lincolnshire for their kindness to them in so readily showing them their works, and he hoped that what they had seen that day would lead them to ponder over the subject and consider what they were to do "hold their own." Although North Staffordshire was an old iron district, North Lincolnshire was before it in many things; and he had no doubt many of the visitors that day would take advantage of what they had seen, and try to compete with others. Considering that at Frodingham there was an immense thickness of ironstone—in some places 14 ft. thick—on the surface, while in North Staffordshire they had to go 300 or 400 yards deep to recover seams, some of which were only 18 in. thick, it would be difficult for the North Staffordshire ironmasters to maintain their ground. (Hear, hear.)—The toast was drunk with much heartiness.—Mr. TOSH, in responding, said that the ironmasters of North Lincolnshire felt highly honoured by the visit of the institute. While North Lincolnshire was in its infancy as an iron district, Staffordshire was one of the oldest and largest iron districts in the kingdom. He hoped with reference to those who were comprised in the toast, that their knowledge would grow with their years. (Hear, hear.) Ten or twelve years ago that district was a rabbit warren. Five or six years ago, when some Staffordshire men came to work in the district, they would sometimes leave their work to catch rabbits, and he might say that two of the sharpest poachers who came to the district were Staffordshire men. (Laughter, and hear, hear.) But now they had disposed of their rabbits and were turning their attention to the production of pigs, an occupation which he hoped would be remunerative to themselves and beneficial to the country. (Hear, hear.)—Mr. CLIFF also responded, and then proposed "Success to the North Staffordshire Institute of Engineers."—Mr. ADAMSON, in responding, said that the Institute was a prosperous one, and although it had only been in existence a period of little less than four years, it numbered upwards of 350 members. He pointed out that visitors to other districts would make them wiser men, and enable them to advance with the times, promote their own interests, and increase the riches of those around them. (Hear, hear.) If the North Lincolnshire ironmasters visited North Staffordshire, he was sure from his knowledge of the district the works there would be thrown open, and there would be a readiness to communicate any information which might be required. (Hear, hear.) North Staffordshire possessed an abundance of the best description of minerals, and an unlimited supply of fuel, and was able to hold its own against the world. He observed that the ironmasters of North Lincolnshire would not object if by perseverance and increased skill some vigorous individuals in that district would, as the Duke of Sutherland had done at Lightwood, sink a pit through the Permian and Red Sandstone rocks, and by that means enable them to obtain coke at 2s, a ton less than they were now able to procure it. (Hear, hear.) Mr. ADAMSON then proposed "Success to Kindred Institutions," coupling it with the name of Mr. COOPER, of London, who, he said, was associated with old George Stephenson in originating the Institute of Mechanical Engineers, and Mr. MARSHALL the secretary of that institute.—The toast having been honoured, Mr. COOPER responded. He said that five men, including old George Stephenson and himself, started the Institute of Mechanical Engineers, and he made some observations as to the practical utility of that and kindred societies.—Mr. MARSHALL also responded.—Mr. HOPKINSON (Chairman of the Chatterley Company) then, in terms of eulogy, proposed the health of the President, who, he said, was associated not only with the North Staffordshire Institute, but the North Lincolnshire Ironmasters and the Institute of Mechanical Engineers.—The toast was drunk with musical honours.—THE PRESIDENT returned thanks in a few genial remarks, and expressed his regret that his predecessor as the President of the North Staffordshire Institute (Mr. C. J. HOMER) was unable to be present. He then spoke of the eminence of members of the iron trade in Staffordshire, and the excellence of their manufactures, which were known throughout the world, and he trusted that the time would come when steps would be taken for erecting a monument of old Cort in that county. As he had said before, Staffordshire had a high class of ironstone, which yielded a large quantity of iron in proportion to the weight of stone, and they had an abundance of fuel. If they would put plenty of work into it, they might hold their position against the world.—The health of Mr. ROWLAND WYNN, M.P., Lord of the Manor of Frodingham, was then drunk, Mr. ROSEBY responding; and this concluded the list of toasts.—The homeward journey was a very tedious one, the train not reaching the Potteries till nearly eleven o'clock at night.—*Staffordshire Advertiser.*

METALLURGICAL PATENTS IN VICTORIA.

We have been favoured by the Registrar-General of Victoria (Mr. RICHARD GIBBS) with a copy of the newly-published volume of abstracts of specifications of patents relating to metals applied for from 1854 to 1866 (London: Triibner and Co., Ludgate Hill), which gold miners will be particularly interested, since it contains the Victorian patents taken in the years mentioned for crushing, and crushing and extracting the gold from its ores. In 1857 a new crushing machine was patented by Mr. Frederic Proeschel. The crusher consists of a body of the shape of a wheel from 10 feet to 20 feet in diameter, and from 5 feet to 10 feet in breadth; the framework is in wood, &c., covered with deals or plates or sheets of any material. The interior must be filled with stones, &c., so as to give the whole body the greatest possible weight. The curve of the lower part must be covered with bars or sheets of iron. This machine must rest on a fixed or moveable bottom of iron, stone, or any other hard body which will allow the quartz to be crushed by the oscillating motion communicated to it. This oscillating crusher can be put very easily into motion, as all the parts of it are in equilibrium; it is only necessary to change the position of the centre of gravity to make it oscillate; this is effected by simply attaching a rope, chain, or bar, to the top of the crusher and pulling it to and fro—this can, of course, be worked by any power.

An invention dated 1860, and described as Phillips's Muller Hammer, will be recognised as one introduced much more recently in this country as a new invention. The subject of the patent consists in combining the percussive and molar actions, and varying each from day to day according to the nature of the material to be treated, the parts being mainly a frame revolving horizontally, and carrying any desirable number of rubbing hammers made of iron or other material, such frame and hammers working on and in a circular trough containing annular segments of iron or other metal of such wedged form and thickness as shall produce any desired fall and abrasion; the trough to contain either water or mercury, or both or neither, as circumstances may enforce, and to have holes for spiking to the ground with a discharging rim-channel. The advantages of the machine are its combined actions, its adaptability to any place and motive-power, the power varying in the same machine from that of one man to six—a steam-engine being employed for several together of similar size and construction, its portability, compactness, and readiness either for shifting or for action.

A peculiar motion is embodied in the invention of Mr. John Don, who, in 1864, proposed a crushing machine mounted on staging some 30 ft. high, and having a muller weighing about 10 tons. The lever or pendulum is 25 ft. long, with a balance-weight of 10 tons attached to it. The machine is kept in motion by swinging the pendulum to and fro by hand by means of a rope attached to the end of the lever. By the motion of the lever the muller rolls from

side to side in the basin. By this means the stuff is crushed to the finest powder, as it has to rise up in the water to the height of 18 in. from the bottom of the basin before it can get away. He proposes to load the lever with some cheap material—such as granite or any other heavy stone. The machine is also to drive a pump by means of a pump attached to the main shaft. The 200 years old invention of crushing minerals by shooting them out of a gun or cannon against a strong resisting surface was patented in 1864 by Mr. A. C. L. De Lacy, who combines it with a chloruration process, which is not of course so antiquated as the gun-trick system of crushing, because chlorine was not discovered so early as guns and cannons.

The last invention noticed in the volume is that of Messrs. Barratt and Costin. The stamps of the crushing machine are raised by endless chains passing over rollers, and having studs the length of the stroke apart. These studs are grasped by a clutch, which opens when the stamp is elevated to the full height, or the stamp is raised by short cams to the required position by two or more successive lifts, or the cam is made in the form of a toothed segment, which works into a rack upon the shaft of the stamper, the toothed segment being followed by a blank space, so as to admit of the fall of the stamp. The cam is also made to act upon the end of a lever by downward pressure, and lifts the stamper by a chain attached to the opposite end of the lever.

The volume is illustrated by photo-lithographs of the drawings attached to the specifications, so that the exact nature of the invention can be readily understood. Few of the inventions, however, are new to English miners, and as ten years have elapsed since the last referred to in the volume, still fewer are at present in practical use. As a record of what has been done the work will prove very valuable, both in preventing the repetition of errors and in pointing out where improvements are required.

MINING AND STOCK EXCHANGE NEWS OF THE WEEK.

Messrs. F. W. MANSELL and Co. (Sworn Stock and Share Brokers), Pinner's Hall, Old Broad-street, write to us as follows:—

SILVER MOUNTAIN MINES—EXCHEQUER, I. X. L., ISABELLE, &c. (No. II.)—The traveller from New York to the Pacific Coast has the choice of four American "trunk lines," which connect with the Great Trans-Continental Railroad at Council Bluffs or Omaha. These four lines are the New York Central and Hudson River, the Erie, the Pennsylvania Central, and the Baltimore and Ohio. Omaha occupies an exceedingly beautiful situation, bold and commanding. Approaching this city from the east the broad valley of the Missouri river first comes into view, then the great iron bridge which spans the river is plainly visible. Behind it, looking to the west, is Omaha. This is the grand gateway through which the western tide of travel is passing in search of what may be found either for amusement, pleasure, or profit on the plains, mountains, and the Pacific. It is the resting place for those who are weary of continuous travel, and has sufficient attractions to render a visit profitable and interesting. Omaha in 1865 did not have a single manufacturing establishment; in 1875 her manufacturers employed over 2000 men. Here are located the largest smelting and refining works in America, the Omaha Smelting Works, employing 135 men, transacting an annual business of \$4,000,000. Here is the eastern terminus of the Union and Central Pacific Railroad—the longest railway in the world, laid the most miles of track in one day, cost the most money, passes over the broadest plains, the finest grazing lands, and the loftiest mountains; near barren deserts, and the most fertile valleys. It possesses the most valuable lands, the highest bridges, and the largest snow sheds. It affords views of scenery the most grand, the mountains are towering and snow capped, the chasms are deep and fearful, while the engineering skill displayed is truly wonderful. Near to this great trans-continental highway are the richest gold, silver, iron, coal, sulphur, and other mines in the known world. The line rises the highest into the clouds, and terminates the farthest from land, over the waters, on the longest pier. It possesses the most rolling stock, and the most costly and luxuriant drawing-room and sleeping cars. On the line of the road wild game of every variety are abundant, from the prairie dog to the buffalo and grizzly bear.

The Western country can no longer be spoken of as the "Far West," as that land is generally conceded to lie near sundown, or at least beyond the Rocky Mountains. Nebraska, so lately opened up to the world, and so lately considered one portion of the "Wild West," forms now one of the Central States. The "Far West" of to-day has become removed from the West of 30 or even 10 years ago, and what is now the central portion of the commonwealth of the Union was then not only the far but, to a certain extent, the unknown West. A rich, powerful, and popular section, comprising three States, has arisen where but a few years since the Jesuit missions among the savages were the only marks of civilisation. All over the once unknown waste, amid the cosy valley and the broad plains, are the scattered homes of the hardy and brave pioneer, while the bleak mountains, once the home of the savage and wild beast, the deep gulches and gloomy canyons, are illuminated with the perpetual fires of the smelting furnace, the ring of pick, shovel, and drill, the clatter of stamp and booming of blasts, all telling of the presence of the miner, and that the streams of wealth which are daily flowing into the world's coffers are rapidly increasing. Numerous are the mining centres between Omaha and Reno, but it is sufficient for our present purpose to inform the traveller bound for Silver Mountain that Reno, nearly 3000 miles from New York, and 290 from San Francisco, is the junction of the Virginia and Truckee Railroad, by which the Comstock Mines are reached. Reno, which has an elevation of nearly 5000 ft., is about nine miles from the Peavine mining district, which is rapidly increasing in importance, from the fact that silver and gold veins are worked yielding as much as \$900 per ton. The ores are admitted on all hands to be the basest worked on the Pacific Coast, and treated successfully only by the O'Hara process.

From midway between Reno and Virginia City, at a point known as Carson City, Silver Mountain is reached by a mountain road, the distance being about 50 miles through Genoa, Markleeville, Silver Creek Canyon, &c. Along this route stand out the grand old monuments of Nature's rearing, the world-renowned mountain chains of the Californian Sierras. As a mining region Alpine County has many advantages. Most prominent among its mining districts is Silver Mountain and Monitor, which in the days that are past were the scenes of busy and active life. Like many other mining localities in both California and Nevada, there have been many difficulties to contend with, and which for many reasons have been prolonged to an extent that is unwarrantable and inexcusable in many instances. Within Alpine County, and passing through four of the mining districts, is a vast mineral belt about eight miles in width, with a general yet well-defined course, northerly and southerly, and in the aggregate about 12 or 14 miles in length. The most casual observer, in passing through this belt, cannot fail noticing its boldness and magnitude, while the studious mining advocate and scientist will immediately observe its perfect adaptation for mineral purposes; and a careful examination reveals the varied and prominent evidences of the mineral wealth here exposed. Among many American geological authorities who have visited Silver Mountain we find the names of Prof. Whitney, Prof. Raymond, and the late Mr. J. Ross Browne, who, in the course of their statistical investigation, pay Silver Mountain a high tribute. The suggestions and directions of these acknowledged and experienced scientists regarding deeper working and an abandonment of the tunnel system were, until recently, unheeded, and for years Alpine County has been subjected to the worse than useless evidences of primitive conception in the form of surface tunnels, driven at a cost of thousands of dollars, when advantageous sites could be obtained for hoisting-works and permanent shafts. Fortunately, however, the days of tunnelling are over, and now, as in the Comstock Mines, is inaugurated the system that should have been adopted at the time of the discovery and occupancy of these districts. Had this course been pursued heretofore the Silver Mountain Mines would now be adding a substantial quota to the vast mineral productions of the Pacific Coast, and Alpine County second to none as a region of mineral wealth. The interest manifested by the Advance and Flint Companies of

Monitor, and the success of the Exchequer and other mines of Silver Mountain, has incited to action many other mineowners and prospectors. The universal opinion is that from the present memorable year an era of prosperity and success will have dawned greater than ever before realised since the earliest discovery of this important belt.

Among the many difficulties has been hitherto the lack of proper and economical roasting furnaces for the successful reduction of the ores. Worthless articles of many description, and bearing numerous titles, have been foisted upon the mining public as the ones great need. Expensive in erection, and worthless in action, they have tended to paralyse the interests to a greater degree than, perhaps, anything else the district has been compelled to contend with. It is self-evident to anyone that sufficient caution was not observed by those whose duty called them to the front, else these visionary monuments of uselessness would never have been erected. Medium results have been obtained by even raw amalgamation, and when a furnace or process not too expensive in working is shown to the public that will thoroughly and successfully treat the ores, no doubt can possibly be entertained regarding ultimate results from either quantity or quality. We believe that the O'Hara furnace will most completely terminate this battle with the baser metals, and once obtained the future, as a bullion-producing region, is assured. The lodes are massive and well defined, and with the aid of well directed capital, furnished with one-fourth the uniformity exhibited on the Comstock, not only one but hundreds of the lodes within this vast mineral belt will prove conclusively to the promoters of such efforts that their labours will not have been in vain.

EXCHEQUER AND I.X.L.—Our reports upon these mines, submitted to the special meetings, embrace such information as we hope will be of interest to the shareholders. If there be any point upon which additional information is required it will be our pleasure to supply it forthwith. This week's advices from Exchequer announce that the cross-cut in the 400—the present deepest point of operation was in 49 ft., and just into the casing of the lode. The north drift in the 300 is in 268 ft., and there is some fine ore in the face. The stopes in the 200 are looking well. The 140 is also looking well. The I.X.L. advices state that the north drift in the 200 had been driven 20 ft. during the week, and in 231 ft. in fair working ground, and good vein matter. The south drift from the lower tunnel is in 19 ft. from the main track—there is good ore in the face and back. Great progress is being made at the mill.

ISABELLE (Gold and Silver).—In immediate proximity to the I. X. L. Mine is an extensive and advantageously located group of proved mines acquired by the Isabelle Company. Even in this remarkable mineral region these properties form a striking feature. This is one of the properties we had a special object in visiting, the directors, no less than ourselves, being most desirous that before entrusting us with its financial direction we should satisfy ourselves on the spot as to its merits. We have satisfied ourselves upon this point, and at the proper time shall have no hesitation in recommending it to the Exchequer and I. X. L. shareholders, who as such will be offered an advantage.

CALIFORNIA (COMSTOCK MINE).—While in Virginia City we had the opportunity to examine into the condition and prospects of this great mine, in importance second only to the Consolidated Virginia, which it adjoins. We find that at the commencement of the present fiscal year (Jan. 19), the California Mine was in debt to the Nevada Bank in the sum of \$28,248. During the quarter ending June 30 the product of the mine, as reported to the assessor of Storey County, was 29,000 tons, valued at about \$4,519,000, or an average of \$155 per ton. Since then the mine has been turning out at the rate of 2500 to 3500 tons of ore per week. The bullion product to date has been as follows, together with the dividends paid:

	Bullion.	Dividend.
May	\$1,609,500	\$1,080,000
June	1,475,000	1,080,000
July	1,402,000	1,080,000
August	2,062,400	1,080,000
September	1,793,700	1,080,000
Total	\$8,345,600	\$5,400,000

The receipts are to Sept. 4, and the dividend to Sept. 16. The difference between the two amounts is \$2,945,600. How much of this sum has gone to pay expenses is not known. We do not think the expenses for this period have averaged over \$350,000 per month. The case may, therefore, be stated thus—

Bullion produce, April 4 to Sept. 4	\$8,345,600
Estimated expenses	\$1,750,000
Overdrawn, Jan. 18	28,300
Dividends to Sept. 16	5,400,000= 7,178,300
Probable surplus	\$1,207,300
Receipts, Sept. 9 to Sept. 26	868,200
Total	\$2,074,500

According to this the company have already over \$2,000,000 to pay the current month's expenses and dividend, with another week's bullion returns to be added. Such are the profitable results now being returned from one of the Comstock mines.

DERWENT LEAD MINES.—Of all the principal lead mining properties in which the public have had an opportunity of investing in the last few years none are more important and valuable than the Derwent, which is situated on the borders of Durham and Northumberland, the richest lead district in the kingdom. These mines have been at work for many years, and though hitherto carried on upon a very limited scale, with little or no capital, are said to have yielded lead ore to the amount of 1,000,000t., and to have given large profits. They have lately passed as a going concern into the hands of an influential company, with a nominal capital of £48,000, the whole of which is subscribed for. Already nearly 150 persons are employed in vigorously pushing on new works, which are leading to, and will lead to further discoveries of value, which, in the words of a well-known practical and successful authority, are "sure to bring this celebrated old mine forward into high rank in the district." The mines are as yet quite in their infancy, the three shafts being down only about 90 fms. each, and there being about 800 fms. in length on the lodes (of which there are at least three productive ones) untouched to surface. But even more important still, the deepest point is only down to the top of the great limestone, which is the sill or strata in which the other large mines in the district are the richest. In fact, Derwent is a splendid property, is just deep enough to enter the first of the series of richer silts, and will ultimately be developed into a very great and lasting property. Magnificent runs of ore hundreds of fathoms in length have been the rule in Derwent above the great limestone, and it may safely be said that as the mine is deepened, and they get down to the great whin sill, the lodes will be found more productive than at any previous period in the working of the mines. There is a large plant of machinery, and everything is being done to enable the operations to be carried on as efficiently and economically as possible, the facilities and advantages for the same being unusually good. Regular monthly returns are being made, and these will before long be considerably increased. We believe that this is the only public Lead Mining Company that has secured the *freehold* of the minerals (the price to be paid for which is included in the above capital), thus saving immensely by the non-payment of dues or royalties, and being subject to no conditions or restrictions as to working, &c. This is a most important consideration, seeing the many thousands per annum paid to lessors by other large companies, whose holdings are only for a comparatively few years, while Derwent will, in fact, hold their mineral property in perpetuity. The company is in 12,000 shares of 4*l*. each, and those who may wish to learn further particulars will find them in the fifth edition of Mr. Murchison's pamphlet on "British Lead Mines," just published.

WHEAL GRENVILLE.—The sale of tin on Wednesday last, with the 11 tons of copper ore sold on the following day, about meet the labour cost and merchants' bills to Oct. 7. It is currently reported that a very satisfactory balance-sheet will be presented to the shareholders shortly, in anticipation of the next general meeting; and, as there is ever probability of the returns of tin being kept up, the

shareholders may congratulate themselves on the fact that they have in their hands a valuable property, and well managed.

GREEN HURTH.—The erection of lead ore dressing machinery at this mine may now be said to be completed, and is doing excellent work. It is not generally known that "house," or crushing-mill work has been gradually accumulating for a couple of years or more, in anticipation of the erection of machinery to crush and otherwise prepare it for market by jigging machines, Zener's bubbles, &c. The quantity ready and now being operated upon is estimated at upwards of 400 tons, and its value as it lays is about 12*l.* per ton. A shaft has been sunk from the surface at the extreme extent of the working on the veins by the adit level, and thus the mine is thoroughly ventilated. A set of pumps is placed in this shaft, and connected by means of a wire-rope to one of the water-wheels, by means of which a great saving is effected over the cost of pumping by hand labour. The shaft will be sunk deeper, to undercut the rich courses of ore that have been driven over and left in the soles of the adit and incline levels. The stopes and ends of the various workings in the mine are producing ore well and opening ground for future stoping works. A new east and west vein has recently been discovered in driving on No. 2 north and south vein. It is a very powerful vein, and so far as seen is likely to be very productive both east and west—going east it will intersect the vein at the old mine, called Boden Mea, which has been under water for above 20 years, and where it is known that a very profitable mine was left by old miners being driven away by the want of ventilation and increase of water. It will be seen by these few remarks that the cloud which has appeared to some to hang over this property is gradually but most surely being lifted away, and that the question of the resumption of dividends will only be interfered with by the difficulty there is in working this and all other lead mines in frosty weather, and not for the want of lead ore; as quite independent of the accumulation at surface before named the mine is working to a good profit.

BEDFORD UNITED.—At the meeting convened for next week it is anticipated that a small call will be necessary to meet the requirements of the mine. In the accounts furnished to the shareholders every known liability is shown, and there is evidence that the returns of copper ore will be increased for the future. The mine is looking well, especially in the 127 fm. level, and operations are about to be resumed on the south lode.

BELSTONE.—The reports from this mine continue very satisfactory. The cross-cut at the 80 fm. level is being continued, and although more than 40 ft. have been driven since the lode was intersected at this depth, the south or footwall has not yet been reached. Rich yellow ore is daily being raised from this point, and also from the 80 level east, which has been commenced on the course of the lode, the strata here being most favourable for the production of ore, and, it is reported, giving almost certain promise of large returns when extended beyond the influence of the cross-course. The stopes in the 40 fathom level are said to have very much improved during the last few weeks, another rich deposit of black ore having been met with. There seems little doubt that this unusually large lode would, if extensively worked at these upper levels, be found to contain numerous deposits of this black ore, which would probably pay handsomely for working, as the produce is very good, but inasmuch as the great wealth of this property is supposed to be in depth, the proprietors have acted with commendable prudence in concentrating their efforts upon the intersection and exploration of the lode in the 80 fm. level, where there is now every appearance that a successful future is assured.

WEST GOGINAN (Lead).—The following telegram has been received from Mr. J. Kitto: Mine greatly improved, both in the winze below the 12 and in the 24 west. Several of the largest shareholders have just visited the mine, and carefully inspected it, the result of their visit proving most satisfactory.

EXCHEQUER GOLD AND SILVER MINE.—The lucid and straightforward report of Messrs. Mansell and Parrick, with regard to the present position and future prospects of this company's prosperity, shows clearly that the shareholders possess a mine which only requires to be properly developed to enable it to take a very high rank amongst the American dividend-paying mines. The ore, which is of similar formation to that in its great neighbour the Comstock Lode, increases in richness as greater depth is attained, and in this respect it shares the experience of the adjacent Consolidated Virginian Mine, with this favourable additional feature—that while the percentage of gold increases the silver shows no sign of falling off. While the two gentlemen named above were on the property the richest ore was kept under lock and key at the mine, pending removal to the mill, the reason for this being that some time since specimens of this rich ore were taken away by passing miners, and the specimens so abstracted were used by those worthless to "salt" other mines in the neighbourhood, and they actually succeeded in selling other adjacent properties on this company's rich specimens. An enormous quantity of lower grade ore is exposed as the development of the mine progresses. It is believed that the O'Hara furnace, from which such good results are anticipated, is at work at the present time, and the advices regarding its capabilities will be looked forward to with great interest, not only by the shareholders of the company, but also by other miners in the neighbourhood, who, if they find the furnace successful, will no doubt avail themselves of the same efficient mode of treating the ore.

I.X.L. MINE.—Amongst the other mines in the district Messrs. Mansell and Parrick carefully examined the I.X.L., and their report places the property in a very favourable light. The quantity of available ore now opened up is estimated, at a moderate calculation, at 45,000 tons, which at \$50 per ton will give 450,000*l.* The I.X.L. has a slight advantage over the Exchequer in being situated lower down the mountain, and the miners can sooner get into settled ground; the mill site is also nearer the mine, thus saving a considerable cost in haulage. There is strong evidence that rich bonanza of ore existed in the upper workings immediately below the surface, and it is also believed that the deeper workings will come under this rich bonanza by February next. The shareholders of the I.X.L. and also of the Exchequer, are fortunate in having as manager a gentleman of the high character and position of Mr. Chalmers. For many years past Mr. Chalmers has been known in the district as a most expert miner, and also a thoroughly trustworthy and reliable man, and the directors have at different times received from perfectly independent eye-witnesses the most gratifying testimony as to the skill and energy of Mr. Chalmers in the management of the great properties committed to his charge.

THE ALMADA AND TIRITO MINES.—We would draw the attention of our readers to the very interesting reports published in the Journal this day relative to the mines of this company. The Tirito Mine, after having passed through a poor zone of felspathic rock, is now at the 42 fm. level beginning to turn out very rich petanque and grey copper and silver ores, ranging from \$400 to \$500 and up \$1300 per ton, and 19 per cent. of copper. A winze is being rapidly sunk from the 32 to the 42 in similar kind of ore, though not solid, which is about 25 fms. north of the discovery in the 42; the water has been drained from this winze from the operations at the lower level. The containing rock at the 42 is porphyry, showing the formation to be open igneous character, and, therefore, likely to last in depth. Above the Tunnel level in Tirito the New East lode is turning out green ore of fair quality south of the slide, and it is expected that it will form upwards towards the surface for 40 fms. from the Tunnel level. No other important feature in the improvement in the Dios Padre Mine at the Tunnel level, where ore has been cut, producing \$180 per ton. Important news may shortly be expected from the Mina Grande Mine, where the shaft has been completed to 24 fms. below the Tunnel, and a cross-cut to the lode has been commenced. When it is stated that the containing rock of these mines are all igneous, such as diorite, porphyry, granite, and syenite, and it is remembered that the Comstock, and others of the best silver mines in Mexico, the United States, and Hungary are

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also in similar rocks, a great future may be expected for the Almada and Trito Mines.

Original Correspondence.

JAVALI MINE.

SIR.—Some years ago I was instructed by a large holder of shares in this mine to survey it, which I accordingly did, and was surprised at the enormous amount of riches; in fact, in my report I stated that the quartz, very highly mineralised, was inexhaustible, and was sure to turn out a prize; but at the same time I said that the management at the mine (*at that time*) was not all that could be wished; that there was great waste, lack of water, and difficulty about labour; but when those drawbacks were removed, and with proper machinery, the mine must pay. I am glad at last to see that I was right; for now, with an energetic and clever manager, good machinery, and plenty of water, a good balance at the banker's, and a profit of over 1000*l.* a month, the Javali Mine cannot but take its proper position, and with the machinery and labour it may yet be a second St. John del Rey. This, Mr. Editor, is my opinion.—Nov. 2.

MINING AGENT.

NEW QUEBRADA MINING COMPANY.

SIR.—Can any of your readers inform me what is doing at the Quebrada Mines? Some little time ago it was reported that a cargo of ore had arrived, but no official information has ever been vouchsafed as to whether it has arrived, or if so, what was its value, or any particulars whatever. The only thing we do know is that the price of our shares fell 25 per cent. in value, and all sorts of rumours have been since in circulation. The present board succeeded to office five years ago, mainly upon the assurance that above all they would keep the shareholders fully informed as to the progress at the mines. How far they have done so may be discovered by asking anyone how the railway is progressing. You will be told that nobody knows. No information is ever given, and although the railway ought to have been finished six months ago, any official information about it has not been given for more than twelve months. As to the mines, no report upon their condition, the extent and nature of the workings, the amount of reserves, if any, has been given since this board was elected. Is it any wonder, then, that a number of dealers in the Stock Exchange laugh at the simplicity of anyone believing in either a mine or a railway?

"Railway about finished?" said a large dealer to me the other day. "No; the railway never will be finished. It is never intended to be finished." Is it any wonder our shares remain at the present price, and why is it? Simply because, perhaps with one exception, there is not a man on the board who was ever in a mine or connected with the building or making of a railway. Honourable men, no doubt, although I question if their names were ever heard or known by a tenth of the shareholders.

I was one of those who supported the election of Mr. Hemming, feeling assured we would have continuous and certain information on every point. But what a change! He has become completely muzzled since he joined the board. Why is this? Has he forgotten his promises, or is it the old difference of being in office and out of office? I can assure him the many shareholders who supported him and elected him as a director have not forgotten them. He knows when agitation was so ripe, years ago, that he was always supported because he promised that not only would he push matters on, but he would not hesitate to speak out, whatever the results were. As yet, we have not heard much from him. If he wishes to retain his position and credit it will not be by such action.

I would like to know is the railway finished, or if not, how long will it be, and what is the reason it is not? What is the condition of the mines? What are the reserves like? Can the railway be supplied from the present workings if it is ready for working? What was the yield of the last cargo of ore? When will there be another? These are questions which everybody asks, and no one can get the information. Will the board deign to publish some answer?

A SHAREHOLDER.

For remainder of Original Correspondence see this day's Supplement.]

Meetings of Public Companies.

SCOTTISH AUSTRALIAN MINING COMPANY.

The half-yearly general meeting of shareholders was held at the City Terminus Hotel, yesterday.—Mr. ADOLPHUS WILLIAM YOUNG, M.P. (the Chairman of the company), presiding.

Mr. CHARLES GRAINGER (the secretary of the company) read the notice convening the meeting, and the directors' report was taken as read.

The CHAIRMAN observed that he was happy to meet the shareholders with a report which he believed must prove satisfactory to them. They would observe that the Lambton Colliery continued to be the principal source of the company's profit, and as long as it continued to produce so well they had every reason to be well satisfied with it. Although English coal and freights had continued very low, and English orders for Australian coal for Eastern ports had, therefore, been slack, the colonial trade had kept up well, and this company had had a fair share of it. 85,485 tons having been sold by them during the half-year. It might state that a comparison of the half-years ending June 30, 1875 and 1876, showed 23,856 tons more coal to have been sold during the last-named period, and costs had been reduced, so that the profits realised per ton had been increased. No change had taken place in the published price of coal—14*s.* for large screened coal, 13*s.* for unscreened, and 7*s.* for small, less customary discounts. There was some talk about a reduction in price, but it was difficult to hazard an opinion one way or the other. Should trade improve, and coal rise in England, probably no reduction would take place, and even without that the inter-colonial trade might be strong enough to support present prices. At the same time it was a fact coal was being offered at somewhat lower prices by young collieries that wish to make a market for their coal. With the view of extending the basis of the company's operations, and having more than one string to its bow, the company's properties at Cadia and in Queensland had been some work done upon them. As regards Cadia, matters seemed to be progressing in a regular and satisfactory way, and it was expected that in the course of a few months the result of the crushing of a quantity of stone from the quartz vein Captain J. Holman was about to test for gold would be known. That this new contained gold had been thoroughly proved, the question now to be solved was whether it could be made to pay. Economical water power had been provided, and there seemed a reasonable chance that on a large scale with this cheap motive power a comparatively low average yield would give a profit. A good deal of work had not yet been sufficient time to enable Capt. Holman to report a definite result, but the old workings had all been cleared out and repaired, and men were working on the quartz and raising ore. Labour was at present plentiful there. As regards Queensland copper property, all the information which the directors had received before drawing up the report was condensed in what was there stated. Another mail, however, had since arrived, and the intelligence which it conveyed was not of so satisfactory a character as the directors had been looking for, to this they assayed had proved less rich for copper than previous samples. He did not attach too much importance to this fact, while at the same time it came as a reminder of the fluctuations that are incidental to copper mining, and as he wished the shareholders to know as much about the company's prospects as they (the directors) did, he liked to tell them a fact even though it should not be quite so palatable as others of a more agreeable character. In the best copper mines the lodes were found to vary in productiveness from time to time, and in a young mine being worked at only a shallow depth this was particularly likely to be the case. As he had already stated, he did not attach too much importance to the less favourable assay of the samples in question, but at the same time it would not be prudent to be too sanguine of the results to be obtained from the working of this property. The directors, however, would take care that competent skill and knowledge shall be brought to bear upon these properties, and that no very large expenditure shall be incurred unless it shall have been pretty certainly ascertained that they are likely to produce satisfactory returns. It was, of course, a matter that caused the board some anxiety that so large a sum as nearly 15,000*l.* should already have been absorbed by the Rockhampton property. There was, however, a return of some quite considerable amount to be realised by the smelting of the ore already at grass and in sight, and manager were fully alive to the duty of spending no more than was absolutely necessary or seemed desirable. He then moved—"That the report of the directors on the paid-up capital of the company (140,000*l.*) be declared, the same to be paid-

able, free of income tax, on and after Saturday, Nov. 11."—The resolution was seconded by Alderman Sir CHARLES WHEATHAM.

Mr. HILL wished to know whether the directors saw their way to utilising profitably further funds, and whether they proposed to call up a further amount upon the new shares?—Mr. BOLTON thought it would be good policy not to open the Stockton coal-field until there should be a demand greater than could be met by the Lambton Colliery.

Mr. FREWER approved of the moderation displayed by the board in carrying over a good sum of profit to next account, and in bringing the reserve fund up to 10,000*l.* He had had a good deal of experience in the matter of copper smelting, and he recommended the board to consider very carefully whether it would be more profitable to make regulus or fine copper at the two copper establishments.

The CHAIRMAN, in replying, said that the board would not call up money unless it was really wanted, nor would they shrink from calling it up if it should really be wanted, as it would be if they should see their way to opening the Stockton coal property. As regards smelting, the remarks of Mr. Frewer would have full consideration on the part of the board. The question of making fine copper or regulus was already being dealt with by the manager, who would act in whatever way would seem to be most likely to be profitable to the company.

The resolution was then carried unanimously.

The remuneration of the auditors was voted, and a vote of thanks to the Chairman and directors, moved by Mr. HILL, seconded and carried unanimously, brought the proceedings to a close.

[For remainder of Meetings see to-day's Supplement.]

THE SCOTCH MINING SHARE MARKET—WEEKLY REPORT AND LIST OF PRICES.

During the past week, the settlement intervening, as also two holidays—Thursday last and yesterday—have all tended to restrict business. In shares of iron and coal concerns Ebbw Vale have been reduced 10*s.*, also Omoa and Cleland 6*d.* Glasgow Port Washington have declined about 15*s.* each on both classes, the report being considered unfavourable. Shotts Iron show a reduction of 30*s.* on the stock, but the new shares are raised 5*s.*, and more business has been done in both for a long time past. Bolckow, Vaughan, A., have improved 10*s.*; Scottish Australian, 7*s.* 6*d.*; ditto (new), 2*s.* 6*d.*; ditto (10*s.* to 17*s.* 6*d.*), the advance of the latter, no doubt, being on account of the favourable report. Denton and Wood-moor Collieries shares have been on offer. Andrew Knowles and Sons are at 7*s.* prem.; ditto (25*s.* paid), 20*s.* to 25*s.* prem. Bolckow, Vaughan, B, 39 to 40. Bilson and Crump, 7 to 8. Cardiff and Swansea, 32*s.* 6*d.*, buyers. Chapel House, 80*s.* to 70*s.* Consett Iron, 10*s.* 6*d.*; ditto (new), 8*s.* 6*d.*; sellers. Sheepbridge, 50*s.* to 70*s.* prem. Skerne Iron, 6*s.* to 7*s.* South Wales Smelting, 5*s.* Staveley, D, 15*s.* to 16*s.* West Cumberland, 10*s.* dis., buyers. In shares of foreign copper concerns Canadian Pyrites (new) have fallen 4*s.* 6*d.*, and Huntington 1*s.* Tharsis descriptions are now quoted ex div., allowing for which the old shares are 6*s.* and the new 9*s.* both better on the week. Cape and Yorke Peninsula unaltered. In shares of home mines the tendency is pretty good. Aberdaunant are at 12*s.* to 14*s.* Ashton, 10*s.* to 20*s.* Bampfylde, 11*s.* 6*d.* Bedford United, 10*s.* sellers. Cargill, 5*s.* 6*d.*, sellers. Carn Brea, 8*s.* Cashwell Lead, 50*s.* buyers. Cathedral, 15*s.* 6*d.* Clementina Lead, 37*s.* to 42*s.* Cook's Kitchen, 60*s.* to 80*s.* Derwent Lead, 6*s.* Dolcoath, 37*s.* Glasgow Caradon, 27*s.*; ditto (new), 19*s.* Great Laxey, 20*s.* to 20*s.* Great Wheal Vor, 10*s.* to 12*s.* Gunnislake (Oliver), 5*s.* Killifirth, 12*s.* 6*d.* to 15*s.* Lead Hills, 7 to 7*s.* Marke Valley, 23*s.* 9*d.* Minera, 20 to 22*s.* North Laxey, 18*s.* to 15*s.* Pateley Bridge, 60*s.* to 65*s.* Pennerley, 22*s.* 6*d.* to 27*s.* Penrith, 11*s.* Prince of Wales, 4*s.* to 5*s.* Roman Gravels, 14 to 14*s.* Rookhope, 16*s.* South Condurrow, 5 to 5*s.* Tankerville, 10 to 10*s.* Van Consols, 40*s.* to 42*s.* West Maria, 2*s.* 6*d.* West Tankerville, 30*s.* to 32*s.* 6*d.*; ditto (new), 4*s.* 6*d.*, buyers. Wheat Bassett, 2*s.* buyers. Wheat Uny, 30*s.* to 35*s.*

In shares of gold and silver mines the only movement is an improvement of 5*s.* on Richmond, on the announcement of a 7*s.* 6*d.* per share dividend and the week's run being 840,000*l.* two furnaces re-started. Chicago has been granted a quotation on the London Stock Exchange, and is firm at 7*s.* to 7*s.* A petition for winding-up the New Rosario Company is to be heard on the 17th inst. Almada and Trito open at 5*s.* 3*d.* sellers. Chontales, 6*s.* 6*d.* Don Pedro, 3*s.* Emma, 7*s.* 6*d.* to 12*s.* 6*d.* Exchequer, 42*s.* 6*d.* Flagstaff, 17*s.* 6*d.* to 22*s.* 6*d.* Frontino and Bolivia, 30*s.* to 35*s.* Gold Run, 3*s.* 9*d.* I.X.L., 22*s.* 6*d.* Malabar, 8*s.* 6*d.* to 11*s.* 3*d.* Malpaso, 13*s.* 9*d.* to 16*s.* 3*d.* Dolcoath, 34 to 35*s.* Don Pedro, 2*s.* 9*d.*, buyers. Ebbw Vale, 11*s.* to 12*s.* Frontino and Bolivia done at 35*s.* Glasgow Port Washington, 45*s.* to 5*s.* prepaid, also 45*s.* to 50*s.* Glyn, 47*s.* 6*d.* to 52*s.* 6*d.* Langdale's Chemical, 8*s.* 6*d.* to 92*s.* 6*d.* Lawe's Chemical, 7*s.* 6*d.*, sellers. Leadhills, 7*s.* to 7*s.* London Gunpowder, 38*s.* sellers. Marke Valley, 28*s.* 9*d.*, sellers. North Laxey, 18*s.* to 15*s.* Newcastle Chemical, 50*s.*, buyers. Oakbank Oil, 50*s.* to 5*s.* Oman and Cleland done at 29*s.* Pateley Bridge, 60*s.* to 65*s.* Pennerley, 27*s.* to 32*s.* 6*d.* Pestarena United, 5*s.*, sellers. Richmond done at 9*s.* closing 9*s.* to 9*s.* Roman Gravels, 13*s.* to 13*s.* Rookhope, 15*s.* to 17*s.* Scottish Australian, 37*s.* to 42*s.* 6*d.* Shotts Iron done at 50*s.* Skerne Iron, 6*s.* to 8*s.* 6*d.* Tharsis done at 20*s.* closing 20*s.* to 22*s.* new shares, 14*s.* to 15*s.* Upphill Oil, 10*s.* to 10*s.* Van Consols, 4*s.* 6*d.* to 45*s.* 9*d.* West Bassett, 8*s.* to 9*s.* West Tankerville, 32*s.* 6*d.* to 35*s.* Wheat Uny, about 30*s.* Young's Paraffin done at 13*s.* closing 13*s.* to 13*s.*

The following were the rates of continuation current to-day:—Contangos: 1*d.* on Canadian Copper Pyrites; 1*d.* on Emma; 1*d.* on Glasgow Caradon; 1*d.* on Glasgow Port Washington; 1*d.* on Huntingdon; 2*d.* on Marcella; 1*d.* on Oakbank Oil (new); and 7*s.* 6*d.* on Young's Paraffin. Backwards: 6*s.* 6*d.* to 6*s.* 6*d.* Canadian Copper Pyrites done at 10*s.* Cathedral, 10*s.* to 20*s.* Cashwell Lead, 50*s.*, sellers; Chontales, 6*s.* to 6*s.* 6*d.*; Consett Iron, 10*s.* 6*d.*; ditto (preference); Omoa and Cleland; and Richmond. Even: On Monkland; ditto (preference); Omoa and Cleland; and Richmond. The usual comparison of the making-up prices for this settlement, with those of the previous occasion, shows an unfavourable result on balance on the un-nominated:—Tharsis have advanced 2*s.*, and ditto (7*s.* paid) 15*s.*; Canadian Copper Pyrites (new), Emma, Glasgow Caradon, Marcella, Monkland, ditto (preference), and Richmond, are all unaltered, but Huntington have fallen 7*s.*; Canadian Copper Pyrites, 4*s.* 6*d.*; Benhar and Young's Paraffin each 2*s.* 6*d.*; also Glasgow Port Washington and Omoa and Cleland each 6*s.*

On SATURDAY the new account opened for settlement Nov. 15; Saturday, Nov. 11, will be contango day. Very little business done. Aberdaunant about 13*s.* 6*d.* Bampfylde done at 11*s.* 3*d.*, sellers over. Bedford United, 10*s.*, sellers. Cargill, 5*s.* 6*d.*, sellers. Cathedral, 15*s.* to 17*s.* 6*d.* Ebbw Vale, 11 to 12*s.* Frontino and Bolivia, 30*s.* to 35*s.* Glasgow Caradon done at 27*s.* closing 26*s.* 6*d.* to 27*s.* Glyn, 47*s.* 6*d.* to 52*s.* 6*d.* Langdale's Chemical, 8*s.* 6*d.* to 92*s.* 6*d.* Lawe's Chemical, 7*s.* 6*d.*, sellers. Leadhills, 7*s.* to 7*s.* London Gunpowder, 38*s.*, sellers. Marke Valley, 28*s.* 9*d.*, sellers. Oakbank Oil (new) 12*s.*, sellers; Pestarena United, 5*s.*, sellers; Scottish Australian, 40*s.* to 45*s.*; new shares, 12*s.* to 17*s.* 6*d.*; Shott's Iron (new) done at 10*s.*; Skerne Iron, 6*s.* to 7*s.* Tharsis done at 20*s.* to 25*s.* closing at those prices; Van Consols, 4*s.* 6*d.* to 42*s.*; Wheat Kitty, 50*s.* to 6*s.*; Wheat Uny, 30*s.* to 35*s.*; Yorke Peninsula (ordinary), 7*s.* 6*d.* to 10*s.*; Young's Paraffin done at 13*s.* to 13*s.* closing 13*s.* to 13*s.*

On MONDAY market quiet. Bampfylde, 11*s.* 6*d.*, sellers. Bolckow, Vaughan, A., done at 5*s.* to 5*s.* 6*d.* Canadian Copper Pyrites (new), 28*s.* 6*d.*, sellers. Cathedral, 15*s.* to 17*s.* 6*d.* Ebbw Vale, 12*s.* to 12*s.* Frontino and Bolivia, 30*s.* to 35*s.* Glasgow Caradon done at 27*s.* closing 26*s.* 6*d.* to 27*s.* Glyn, 47*s.* 6*d.* to 52*s.* 6*d.* Langdale's Chemical, 8*s.* 6*d.* to 92*s.* 6*d.* Lawe's Chemical, 7*s.* 6*d.*, sellers. Leadhills, 7*s.* to 7*s.* London Gunpowder, 38*s.*, sellers. Marke Valley, 28*s.* 9*d.*, sellers; Oakbank Oil (new) 12*s.*, sellers; Pestarena United, 5*s.*, sellers; Scottish Australian, 40*s.* to 45*s.*; new shares, 12*s.* to 17*s.* 6*d.*; Shott's Iron (new) done at 10*s.*; Skerne Iron, 6*s.* to 7*s.* Tharsis done at 20*s.* to 25*s.* closing at those prices; Van Consols, 4*s.* 6*d.* to 42*s.*; Wheat Kitty, 50*s.* to 6*s.*; Wheat Uny, 30*s.* to 35*s.*; Yorke Peninsula (ordinary), 7*s.* 6*d.* to 10*s.*; Young's Paraffin done at 13*s.* to 13*s.* closing 13*s.* to 13*s.*

On TUESDAY little doing. Aberdaunant, 12*s.* 6*d.* to 15*s.*; Bampfylde, about 18*s.* 6*d.*; ditto (6*s.* 6*d.*) offered at 6*s.*; Cargill, 5*s.* 6*d.*, sellers; Cathedral, 18*s.* to 19*s.* 6*d.*; Derwent Lead, 6*s.* 6*d.*, sellers; Frontino and Bolivia, 30*s.* to 35*s.*; Glasgow Port Washington, 40*s.* to 45*s.*; Glyn, 47*s.* 6*d.* to 52*s.* 6*d.*; ditto (3*s.* 6*d.*) done at 6*s.* 6*d.*; Huntington done at 9*s.* 6*d.* to 9*s.* 6*d.*; Langdale's Chemical, 8*s.* 6*d.* to 92*s.* 6*d.*; Lawe's Chemical, 7*s.* 6*d.*, sellers; Leadhills, 7*s.* to 7*s.* London Gunpowder, 38*s.*, sellers; Marke Valley, 28*s.* 9*d.*, sellers; Oakbank Oil (new) 12*s.*, sellers; Pestarena United, 5*s.*, sellers; Scottish Australian, 40*s.* to 45*s.*; new shares, 12*s.* to 17*s.* 6*d.*; Shott's Iron (new) done at 10*s.*; Skerne Iron, 6*s.* to 7*s.* Tharsis done at 20*s.* to 25*s.* closing at those prices; Van Consols, 4*s.* 6*d.* to 42*s.*; Wheat Kitty, 50*s.* to 6*s.*; Wheat Uny, 30*s.* to 35*s.*; Yorke Peninsula (ordinary), 7*s.* 6*d.* to 10*s.*; Young's Paraffin done at 13*s.* to 13*s.* closing 13*s.* to 13*s.*

On WEDNESDAY little doing. Aberdaunant, 12*s.* 6*d.* to 15*s.*; Bampfylde, about 18*s.* 6*d.*; ditto (6*s.* 6*d.*) offered at 6*s.*; Cargill, 5*s.* 6*d.*, sellers; Cathedral, 18*s.* to 19*s.* 6<i

Registration of New Companies.

The following joint-stock companies have been duly registered:—

SANITARY DWELLINGS COMPANY (Limited).—Capital 40,000*l.*, in 20*l.* shares. To construct improved dwellings, &c. The subscribers (who take 15 shares each) are—Banister Fletcher, 29, New Bridge-street, W.; W. F. Girvan, Queen's-road, Clapham Park; Thomas Yeo, 41, Boundary road, St. John's Wood; J. R. Trumperrow, 46, Finchley-end, St. John's Wood, N.; W. J. F. Hill, Wilton Cottage, Twickenham; V. E. Etienne, 13, Oxford-road, Ealing; Alfred Hays, 13, Cavendish-road, St. John's Wood; A. F. Godson, Pump-court, Temple.

LAS CABENZA ESTANCIA COMPANY (Limited).—Capital 80,000*l.*, in 20*l.* shares. To acquire and work the establishment belonging to Mr. James Black, called Las Cabenza Estancia, situated in the Department of Gualquey, Entre Ríos, in the Argentine Republic. The subscribers (who take one share each) are—James Black, Randolph Crescent, Maida Vale; G. C. Black, Randolph Crescent, spinster; Frederick H. Moore, 27, Leadenhall-street; F. Nedd, Holly Grange, Bowdon; J. Pringle Boyde, 314, Upper Parliament-street, Liverpool; Isabel Crane, 2, Haut Bolt Terrace, Jersey; Charles Darby-hire, The Hollies, Beaumont, Jersey.

JOB SMITH AND COMPANY (Limited).—Capital 20,000*l.*, in 100*l.* shares. To carry on business as corn merchants, millers, and tonnage contractors at Salford. The subscribers are—J. Palin, 33, Hanging Ditch, Manchester, 20; Peter Foster, Bolton, 10; William Williamson, 139, Chester-road, Hulme, 5; E. Guthrie, Munden-street, Manchester, 1; J. Brunett, 38, Cross-street, Manchester; A. McNay, Weaste, Salford; G. Irland, Chapel-street, Salford.

CHLORALUM COMPANY (Limited).—Capital 50,000*l.*, in 5*l.* shares. To carry on business as manufacturers of chloralum, chloride of aluminium, and other chemicals. The subscribers (who take one share each) are—Thomas Boyd, 50, Parliament-street; George Brocklebank, 35, Bedford-square; J. H. Tolme, 1, Victoria-street Buildings; F. B. Decling, 5, Victoria Chambers, S.W.; John Scrotton, 11, Ashley Villas, Twickenham; W. M. Hume, Linsey-road, Bermondsey; G. E. Parkinson, 49, Mornington-road, Regent's Park.

CHRISTCHURCH GASWORKS (Limited).—Capital 50,000*l.*, in 10*l.* shares. To take over the existing gasworks, and to supply Christchurch and neighbourhood with gas, &c. The subscribers (who take one share each) are—J. J. Stevens, Stockwell; James Bridger, Manor House, Mitcham; J. J. Stevens, Darlington Works, Southwark; J. Miller, 14, Fenchurch-street; G. H. E. Brown, Harlesden; W. H. Williams, 20, Adlington-square, W.; C. S. May, Hibernia-road, Hounslow.

BRIXTON MUTUAL MARINE INSURANCE ASSOCIATION (Limited).—This company is limited by guarantee, and it is formed for the insurance of ships upon the mutual principle.

CLARKE'S CRANK COMPANY (Limited).—Capital 50,000*l.*, in 20*l.* shares. To acquire Crank Works in the City of Lincoln, and to take over the business of Mr. Edward Clarke, millwright, &c. The subscribers are—G. H. Wright, Burton House, The Park, Nottingham, 75; E. S. Mason, White Hart Hotel, Lincoln, 50; M. R. W. Silborthorpe, The Dower House, Canwick, 15; Edward Clarke, Tentercroft-street, Lincoln, 35; C. Cousin, Lincoln, 50; A. H. L. Melville, Branton Hall, Lincoln, 50; F. R. Larken, Minister-yard, Lincoln, 100.

AUTOMATIC MACHINERY COMPANY (Limited).—Capital 25,000*l.*, in 5*l.* shares. To carry on business as dealers in machinery, &c. The subscribers are—John Columbine, 3, Bell-terrace, Churchfield-road, Acton, 5; George Watson Lamb, 61, Prince of Wales-road, N.W., 200; W. Thomson, 3, Ferdinand-place, Chalk Farm, 1; James Miller, 3, Ferdinand-place; D. McLaren, Elphinstone-road, Hastings, 1; Alexander Miller, 2, Ferdinand-place, Chalk Farm, 1; J. G. Weir, Upper Trocadero Lodge, Hampstead.

HUNSBURY HILL COAL AND IRON COMPANY (Limited).—Capital 100,000*l.*, in 10*l.* shares. To acquire the property and effects of the Northampton Coal, Iron, and Wag Company (Limited). The subscribers (who take one share each) are—Thomas Pressland, jun., Northampton, broker; F. E. Lewis, The Oaks, Wolverhampton, iron and mineral broker; James Barry, Northampton, ironfounder; John Blackman, The Drapery, Northampton, hosier; John Lepper, Northampton, merchant; J. B. Norman, Northampton, silk mercer; Thomas Green, Northampton, solicitor. The directors are—Messrs. Pickering, Phipps, M.P.; James Barry, F. E. Lewis, J. B. Norman, and Thomas Pressland, jun. The qualification is the holding of 50 shares, and the remuneration 20*l.* per annum and 5 per cent. on the net profits after deducting all expenses and the sums set apart to meet depreciation.

LIVINGSTONE HALL COMPANY (Limited).—Capital 12,000*l.*, in 10*l.* shares To erect a concert-hall at Darlington.

THE WEEK.

SATURDAY, Oct. 28.—The advance yesterday of 3*l.* per ton for Cornish tin, and the fact of Dolcoath being able, notwithstanding the badness of the times, to declare a 7*s.* 6*d.* dividend, has given rather a fillip to mining. Dolcoath advanced 2*s.* to 3*s.* while Wheal Grenville improved to 2*s.* buyers. Some enquiry prevailed for East Caradon, South Condurrow, and Wheal Creber. It appears that a good many lead mining shares will be taken off the market this account, which will make prices firmer. Lanwarrin shares continue very firm, and were quoted to-day 1*s.* 2*d.* to 2*s.* Abberdunant, 5*s.* to 7*s.*; Bampfylde, 10*s.* to 15*s.*; Malabar, 8*s.* to 10*s.*; Rica, 4*s.* to 5*s.*; Malpas, 5*s.* to 7*s.*; Sweetland Creek, 5*s.* to 7*s.* 6*d.*; Fron-tino, 15*s.* to 17*s.*; Sierre Buttes, 1*s.* 2*d.* to 1*s.* 3*d.*; Exchequer and I.X.L. remain dull; the former can be had at 5*s.*, and the latter at 9*s.* Port Phillip were offered at 7*s.* 6*d.*, and Eberhardt at 8*s.* Glyn shares were quoted 2*s.* to 2*s.*; Great Laxey remain steady at 20*s.*

MONDAY.—The settlement was concluded to-day, and with but three failures—four persons in all—a firm of brokers and a couple of jobbers in the foreign market, who were caught in the rise on the fall; none seemed to be for large amounts. But little fresh business was done to-day, and the tone remained good for railways, British reached par, and Caledonian were dealt in at over 12*s.* Foreign stocks were inclined to dullness, except Argentine; the 1858 Loan was quoted as high as 57*s.* Egyptian of 1873 dropped 1*s.* per cent. to 40*s.* Foreign and Colonial Trust First Issue, 75 to 80. Fifth ditto, 44 to 50. These are daily becoming more and more unmarketable. United States Mortgage, 97 to 98. Nerubuda Coal, 3*s.* to 5*s.* Credit Foncier, 1*s.* to 2*s.* Eley Brothers, 23 to 24. English Credit, 3*s.* to 4*s.* General Credit, 8*s.* to 6*s.* National Discount, 8*s.* to 8*s.* Australian Agricultural, 100 to 102. Canada Company, 91 to 93. Hudson Bay, 17 to 17*s.* Brighton Aquarium, 14*s.* to 15. Native Guano, 2*s.* to 3*s.*

TUESDAY.—About noon the foreign market was thrown into disorder by official intelligence of an "optimatum" having been handed to the Porte by the Russian ambassador. The upward tendency of all the Russian issues was at once checked; for the last ten days they have been gradually ascending in value, to the surprise of those best informed as to that country's embarrassment. Thus, the 1873 reached again the price it stood at previous to Wednesday's collapse. There was a fall to-day of over 2*s.* to 8*s.* and a similar decline in nearly all the other issues. Hungarians were just as much discredited; indeed the 1873 and 1874 Loans fell as much as 3*s.*, closing at 7*s.* and 7*s.* respectively. Home railways, of course, fell in sympathy, but closed above the worst; the weakest were Caledonian, Great Eastern, and North British. Mining shares had a steady market. Cathedral, 7*s.* to 1*s.* Glyn, 2*s.* to 2*s.* Belstone Copper, 1*s.* to 1*s.* Marke Valley, 1*s.* to 1*s.* It was mentioned that Richmond will shortly declare a dividend. Shares firm at 10. Run, \$49,000.

WEDNESDAY.—Holiday on Stock Exchange. **THURSDAY.**—A very dull tone was evident at opening; Russians went down to 8*s.*, and Balch were offered at 9*s.*. Shortly after 12 o'clock, when it was stated that the armistice had been satisfactorily arranged, great excitement prevailed, and so eager were the "bears" to get stock so as to close that very unreasonable prices were made in a very few minutes. British bounded up to 10*s.* while Russians flew up to 8*s.*, although the buying was by no means large, but sellers were very shy. Tonson touched 9*s.*, and this encouraged railway buying. The traffics were also considered good. Midland had an increase of 6*s.* 9*d.*; Great Western, 4*s.* to 4*s.* 9*d.*; Metropolitan, 10*s.* to 10*s.* Egyptian are as high as 4*s.* to 4*s.* 9*d.* Argentine of 1869 have advanced to 41*s.* on some special buying by those likely to know something of Mr. Goischen's report which was handled yesterday to the Kneives, T. A. L., 7*s.* to 1*s.*; Bampfylde, 7*s.* to 8*s.*; Newport Abercorn, 4*s.* to 5*s.*; Wilson and Crump, 7*s.* to 8*s.* **Two o'Clock.**—The temporary respite at noon caused by the continental bourses being behind us in the race has been got over, and "buy" is still the order of the day. British are up to 10*s.* 1*s.*; while Egyptians are as high as 4*s.* to 4*s.* 9*d.* Argentines of 1869 have been done at 7*s.*, but have eased down to 6*s.* Russian, 1873, 8*s.* 1*s.* to 9*s.* ditto of 1862, 8*s.* to 8*s.* Caledonian, 12*s.* to 12*s.* Paris prices only make Egyptians 4*s.*—**Four o'Clock.**—Consols from 9*s.* are 4*s.* easier, and prices generally are not so good. Egyptians are 4*s.* to 4*s.* 9*d.* but British remain very firm at 10*s.* 1*s.* Chapel House, 3*s.* to 3*s.*; Belstone Copper, 1*s.* to 1*s.* The Wilson and Crump Colliery meeting, called for three o'clock, is still sitting, and there is a good attendance.—*Birchin-lane, Nov. 3.* **FERNAND R. KIRK.**

FLAGSTAFF SILVER MINING COMPANY OF UTAH.—A petition for winding-up the above company has been presented to the Court of Chancery by Mr. F. W. Snell, solicitor, a creditor of the company, and the petition will be heard before the Master of the Rolls on the 11th inst. This unfortunate property was introduced to the British public in November, 1871—about a month after the launching of the notorious Emma Silver Mine—the object being to purchase and work the Flagstaff Silver Mine, situated in Little Cottonwood Canyon, Utah. The consideration paid was 300,000*l.*, of which 100,000*l.* was paid in cash, and the remainder in fully-paid shares. Like most of the other American Mines introduced at the same time to the English investor (many of which have turned out such miserable failures), the excellencies of the Flagstaff were vaunted in extravagant terms, and the yield of the mine represented to be equal to a dividend of 36 per cent. As a matter of fact dividends were actually paid for a short time at the rate of 2*s.* per cent. per annum; but this flourishing state of affairs was but of short duration, and no dividend has been paid since August, 1873. A committee of investigation which was subsequently appointed, ascertained that although 123,000*l.* had been distributed in dividends, only 50,000*l.* had been earned, the balance having been borrowed. The subsequent appeals to, and negotiations with the vendor, with the view of inducing him to return a portion of the purchase money, are familiar to all readers of the *Mining Journal*; and for some time past it must have been evident to the most sanguine shareholder that the days of the Flagstaff were numbered.

THE MINING JOURNAL.

Mining Correspondence.

BRITISH MINES.

ABERDAULANT.—S. Toy, Nov. 1: Setting Report: The deep adit level, to drive a cross cut south, towards the new shaft, by six men, at 8*s.* per fathom, for 2*fms.* 3*ft.*, which will bring us under the new shaft. In the east part of the sets (Crownhill) the cross-cut to drive towards the south lode, by six men and one boy, at 8*s.* per fathom, for the month; the ground is still very hard for driving.—Surface: We shall finish putting the roof on the engine-house this week.

ASHHETON AND WEST ASHHETON.—John Craze, J. Manley, Nov. 2: West Ashton: We have commenced driving the 40 west of boundary shaft; the lode is yielding 1*1/2* ton of lead per fathom. No change in any part of the mine since last report.

BEDFORD UNITED.—R. Goldsworthy, W. Phillips, Nov. 2: The lode will be taken down in the different levels, so as to give a full report for the meeting on the 8th inst.

BELSTONE.—J. Neill, Oct. 28: A Shaft—Main Lode: The 80 cross-cut south has been driven this week 1*fms.* 3*ft.*; total distance from shaft, 27*fms.* 4*ft.* 3*in.* Driven on the lode about 38*ft.* Good progress has been made in driving this week, the strata being favourable for driving, and still highly mineralised; the drage continues to yield good yellow ore. The level east from the 80 cross-cut was commenced in the early part of the week, and is being worked by four men; distance driven, 5*fms.* 6*in.*; the stratum is equally favourable as that passed through in the cross-cut, being composed of all the favourable properties essential for the production of yellow ore, and which is being met with as the drage proceeds, and from all indications we may expect an early improvement as we get away from the cross-cut.

CRAIGIOG.—C Shaft: The 40 stopes are much more productive than they were last week, a great improvement having taken place both in the character of the strata and in the yield of ore, there is every appearance of its further improving and lasting for some time, the indications being peculiar and analogous to those we have before met with around the ore in this mine.

NOV. 1. I am pleased to inform you the 40 stopes, C shaft, have again further improved in the yield of ore this month, and are now looking very well indeed, the strata around the ore being of the most promising character, and easy for working. This improvement is in ground quite unexplored, and from the favourable indications showing there is every probability of its continuing productive for some distance. The strata at the 80 cross-cut, A shaft, continue highly mineralised and favourable for progress. The drage east still yields good yellow ore, the strata being composed of garnet, hornblende, hornstone, chlorite and quartz, all of which are favourable to the production of ore, and good progress is being made in this drage.

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warehouse and floating stocks, and the demand for consumption showing signs of increasing. We give the following figures for the month of October as compared with the two previous years:—
London statistics—
Arrivals during October Tons 1876. 1875. 1874.
Delivered from stock 859 1310 1336
Straits shipments 1034 1315 976
Ditto afloat 300 680 560
Australian shipments, about 499 1300 1050
Ditto afloat, ditto 500 500 600
Australian shipments, about 1900 1000 —
Stock, November 1 7745 5595 3018
Price of Straits, November 1 £74 10s. £85 10s. £93
Statistics in Holland—
Deliveries: Banca Tons 1876. 1875. 1874.
Billiton 706 340 455
Stock: Banca 3046 3104 4740
Afloat: Banca 140 530 400
Billiton 1170 1000 —

Cullum-street, Nov. 1.

SANFORD AND BIRD.

The demand for tin much increased during October, and the deliveries from London and Holland were large, together 2180 tons; the stocks are in consequence decreased, as will be seen by reference to the figures herewith. The large delivery from London is the most remarkable as the tin-plate continues depressed, and its consumption of tin much below the average. The price of Straits to-day is 75/-; Australian, 73/-, 10s. to 74/-.

	Tons	1876.	1875.	1874.
In Holland: Banca	7,999	7,759	5,503	3,016
Billiton	1,299	637	634	450
Burma, ditto	984	735	847	765
Afloat for Europe, Straits, advised by mail and telegram	600	350	1,300	1,048
Afloat, Australian ditto	1,680	1,900	920	1,000
Afloat, Billiton	750	1,120	1,000	750
Banca in Trading Company's hands	1,208	1,360	2,275	3,990
Banca afloat, by sailing vessels	219	140	497	375
Total	14,689	14,022	13,066	11,384

FRENCH AND SMITH.

* With this week's Journal a SUPPLEMENTAL SHEET is given, which contains:—Original Correspondence; Sudden Outbursts of Gas in Collieries; Emma Silver Mining Company (A. W. MacDowell); The La Manche Mining Company (M. J. Fildes); Manufacture of White Lead; Rock-Boring Machine (J. Barkell); Legitimate Mining—Bwlch United (J. Y. Watson); Pembrokeshire (T. Evans); Cardiganshire Mines—Pen-y-wlch (A. Francis); Mining in Cardiganshire and Caergwyn, on North Rhedyn Mine (A. Francis); Cornish Mining—Longitudinal Extent of Lodes; Valuable Discovery of Copper in Devonshire (G. Spark); Cwm Dwyfor Mine, Carnarvonshire; St. Austell Mining District (R. Symons); Iron Ships and Guns for War Purposes—Iron Shipbuilding—Mr. John Clase on £10,000 (J. Clark); Foreign Mining and Metallurgy—Mineral Wealth of New South Wales—Alma and Tivito Consolidated Silver Mining Company—Foreign Mines—Esgair Fraith Mine—Special Report—Meetings of Exchequer, I.X.L., Wheal Crebor, South Caradon, Wheal Kitty, Blue Hills, Penhalls, West Tolgus, Llan Gan, Great North Laxey, and Copiapo Companies.

TO THE METAL TRADE.

FOR COPPER, TIN, LEAD, &c., apply to—
MESSRS. PELLY, BOYLE, AND CO.,
SWORN METAL BROKERS,
ALLHALLOWS CHAMBERS, LOMBARD STREET, LONDON.
(ESTABLISHED 1849.)

The Mining Market: Prices of Metals, Ores, &c.

METAL MARKET—LONDON, NOV. 3, 1876.

IRON.	£ s. d.	£ s. d.	TIN.	£ s. d.	£ s. d.
Fig, G.M.B., f.o.b., Clyde.	2 17 6	—	English, ingot, f.o.b...	79	0 0
Scotch, all No. 1 ... 2 18 6	—	8 6	" bars	80	0 0
Bars, Welsh, f.o.b., Wales	15 5	0 6	" refined	81	0 0
" in London	6	10 0	Australian	74	10 0
" " "	8	0 0	Banca	75	0 0
" in Tyne or Tees	6	9 0	Straits	76	0 0
" Swedish, London	11	5 0	COPPER.		
Hails, Welsh, at works	5	2 6	Tough cake and ingot	83	0 0
" spikes	—	—	Best selected	84	0 0
Sheets, Staff., in London	9	15 0	Sheets and sheathing	87	0 0
Plates, Staff., in London	9	10 0	Flat Bottoms	90	0 0
Hoops, Staff.	8	15 0	Wallaroo	85	0 0
Nail rods, Staff., in Lon.	7	7 6	Burra, or P.C.C.	84	0 0
STEEL.			Other brands	82	0 0
English, spring	14	0 0 23	Chili bars, g.o.b....	77	0 0
" cast	25	0 0	PHOSPHOR BRONZE.		
Swedish, keg	15	10 0	Bearing metal	£112	0 0
" fag. ham.	17	10 0	Other alloys	£120	0 0
LEAD.			BRASS.		
English, pig, common	22	0 0	Wire	9½d.	9¾d.
" L.B.	22	0 0	Tubes	9½	—
" W.B.	22	0 0	Sheets	8½	9½
" sheet and bar	22	5 0	Yel. met. sheath. & sheets	7½	8½
" pipe	22	15 0	Nails composition	9	10½
" red	23	1 0	TIN-PLATES.*	per box.	
" white	28	0 0 29	Charcoal, 1st quality	1	4 6
" patent shot	25	10 0	2nd quality	1	3 0
Spanish	21	10 0	Coke, 1st quality	1	1 0
QUICKSILVER.			2nd quality	1	0 0
Flasks of 75 lbs., ware.	3	10 0	Black	per ton	17
SPELTER.			Canada, Staff., or Gla.	13	0 0
Silesian or Rhenish	22	15 0	Black Taggers, 450 lb.	10	10
English, Swansen	28	10 0	14 x 10	0 0	
Sheet zinc	26	10 0	—	—	

* At the rates, 1s. to 1s. 6d. per box less for ordinary; 1s. per ton less for Canada; IX 6s. per box more than IC quoted above, and add 6s. for each X. Terne-plates 2s. per box below tin-plates of similar brands.

REMARKS.—Whatever may have been the shortcomings of the former part of the year in regard to commercial affairs, we think there is little cause for complaint of the amount of business doing lately, especially in certain descriptions of metals; and if the demand should continue as satisfactory to the close of the quarter it will make up in some degree for the deficiencies of many of the previous months; and, in the event of any marked increase, the aggregate of the whole year's business may not, perhaps, prove much below the average as was originally feared. It would, doubtless, be taking rather too sanguine a view after such a very long period of prostration, to expect that the year will compare favourably with those of its immediate predecessors; but a return to anything approaching normal activity, whereby the equilibrium of our markets might be attained, would undoubtedly go far to redeem the past, greatly help to restore confidence, and ensure stability for the future. From force of circumstances the ideas of mercantile men have undergone a wonderful change, and are so much modified to what they once were that a moderate business gives as much satisfaction now as transactions of an extensive character did formerly, the severity of the lesson derived from the late depression having exercised in this respect a most salutary influence. Nevertheless, however much experience may be needed by the cautious part of the community, yet there remains some few who totally disregard the excellent uses and wholesome discipline of adversity, and merchants are still found incurring liabilities to an unwarrantable extent beyond their capital; and were it not for the easy facilities of finance afforded by the various banking establishments, they would be compelled in a very short time to suspend or at least to limit their engagements more within their resources.

The advances made by the banks on documents are generally inadequately covered, and sometimes without margin; the consequence is that a number of small capitalists are enabled to extract an extravagantly large business, quite out of all proportion to their means, to the injury of the good old firms of respectability and standing, but not only is the trade greatly divided to what it was formerly, but merchants have to be content with a smaller percentage of profit, while at the same time the amount of risk is increased, rendering the carrying on of a purely commission business more precarious and less profitable. There is, however, another matter which threatens in course of time to annihilate the merchant almost entirely, and that is the strong tendency fast growing up on the part of consumers and producer to deal direct. Such a system should meet with the strongest and most determined opposition, as it will drive business into a terribly contracted sphere, and that certainly is not calculated to promote the general welfare of mercantile men, but, on the contrary, will if allowed to expand ultimately be their ruin. Let everyone keep to his legitimate calling, and not encroach on the business of his neighbours, or attempt to deprive him of his fair share of gain. Merchants ought not to have the brokers' commission any more than manufacturers the merchants' profit, and it is an act of gross injustice whenever it is done.

COPPER.—On Saturday last the charters of Chili during the first half of October were telegraphed as 2300 tons, being 1100 tons in bars and 1100 tons of ores and regulus for England, and 100 tons of bars for the Continent. Although the quantity is an excess of the average, the announcement did not depress the market, for on that day 75/-, 5s. was realised for two or three months prompt, and 77/- for Chilean. The demand continued good on Monday, and a further improvement was effected, 76/- 10s. being paid for cash and January prompt, and 77/- for Latin American. Wallaroo cake participated in the rise, and sellers obtained 80/- and 85/- cash. Tuesday's sales were also upon a satisfactory scale, and imparted greater firmness to the market. The prices paid for g.o.b. were 75/- 10s. to 76/- 5s. cash, and 77/- one month, and the same for named brands. The difficulty of securing any quantity of raw material, and the continued rise in value, compelled the sellers to advance their rates 3/- per ton, tough being raised to 8/-, best selected 8/-, sheets and sheathing 90/-, and yellow metal for home consumption 8½d. On Wednesday the published returns of the deliveries of Chili during the

last half of November showed the statistics to be less favourable than the previous statement, the stock having increased about 100 tons in Liverpool and Swansea, but in Havre the increase was no less than 1100 tons. The total quantity of English and foreign in London, Liverpool, Swansea, and Havre, including that which is afloat and chartered, amounts to 39,300 tons, or an increase of 834 tons. The market on Thursday was steady, and a fair quantity of Chili changed hands at 76/- 10s. to 77/- cash and arrivals, and 15s. 6d. per unit paid for a cargo of ore.

To-day the market opened strong, and the increased stock appeared to have made no unfavourable impression; buyers came forward, and freely paid 77/- for forward parcels, but beyond this price there was no disposition to move, and sellers asked 77/- 10s. to 78/-, but a small quantity was offered at 77/- 10s. forward, the cash price of g.o.b. varying between 76/- 10s. to 77/- 10s. 6d. Wallaroo, 82/-; Burra Burra, 84/- It is not surprising after such a good business that the market should remain passive for a few days, but the fact of the principal part of the stock being held off for higher prices will, probably, soon give another impulse, and if the demand continues equal to what it has been lately 80/- seems a figure that may be safely reached.

IRON.—Another week has elapsed without any change taking place in the general appearance of the market, prices remain much about the same as last, and the demand is still extremely limited, with no signs of improvement. The prospects are exceedingly gloomy, and there is greater probability of prices declining than otherwise. The end of the shipping season is drawing near, and there will soon be a dearth of orders. As it is, many of the works experience the greatest difficulty in securing work for only a few days a week, and when they get into the winter quarter their troubles are more likely to increase than decrease. In the shipping trade there is nothing better to hope for until prices are lowered, and as regards the home trade dealers do not care to accumulate stocks towards the end of the year. The little demand that may hereafter exist will be quite inadequate to sustain the whole manufacturing iron trade of the country, and there is evidently no alternative but to reduce prices to such a point as cannot fail to produce the desired effect. It is not a matter of 2s. 6d. or 5s. per ton that will be sufficient to attract the notices of buyers, or induce them once again to buy for stock, but the reduction must be about 20%, per ton before any impression will be made, and we might then hope that the demand would steadily increase, and that we should be able to hold our own against the production of foreign makers.

With the exception of Scotch pigs, no speculation is going on, and even in pigs the transactions here are very trifling. No one has any faith in an advance of prices, and consequently the buying is entirely limited to bona-fide requirements, and these in a short time will no doubt be further diminished. We believe both masters and men have lost their opportunity by wasting so much time before arriving at an amicable settlement; whereas if they had come forth boldly a month or two ago, and faced the master in a decided manner and in a spirit of equity, something to their mutual advantage by this time might have been concluded, and the trade, instead of languishing, would have had a fair chance of recovery. To go on in the present unsatisfactory way is merely postponing the evil day, and in the meantime the business which might have been obtained is going away to Belgium, where prices and wages are lower than in England. The working classes of England are forfeiting the good opinion and sympathy of their fellow-countrymen by adhering so persistently to a scale of wages that is not in any way justified by existing circumstances.

In Scotch pigs slight fluctuations have occurred, and the closing price of mixed numbers is 5½d., market closing firm. The stock in store is 93,524 tons, being an increase of 368 tons, with warrants in circulation for 81,600 tons.

SHIPMENTS.

Week ending Oct. 28, 1876	... Tons 13,580
Week ending Oct. 30, 1876	... 11,366

Increase 2,214
Total decrease for 1876 65,329

Imports of Middlesborough pig-iron into Grangemouth :—

Week ending Oct. 28, 1876	... Tons 4,619
Week ending Oct. 30, 1876	... 2,659

Decrease 1,969
Total increase for 1876 55,602

LEAD.—The market has been gradually stiffening, and sellers have been less inclined to commit themselves to heavy engagements. The Russian ultimatum gave firmness to the market, and prices have since improved. Although it is stated that an armistice has been signed, yet it does not follow that peace will ensue; indeed, the political views are far from reassuring, and the preparations for war on all sides must cause a good demand for this metal.

SPELTER.—The market has not undergone any change, prices of Silesian and English hard are quoted as before. The stock of Silesian in London is only 118 tons.

TIN-PLATES.—The demand is still sluggish, and prices are unimportant.

STEEL.—English and foreign are both unaltered.

QUICKSILVER.—A good business has been doing at 8/- per bottle until Wednesday, when sellers of Spanish declined to accept that price any longer, and the price is now 8/- 10s., at which orders are being placed.

TIN.—The market remained quiet during Saturday and Monday, and very little business was reported. Australian stood at 73/-, and Straits at 74/- 10s. for cash, and 74/- for November, and 73/- 15s. for December. The market on Tuesday was firm, owing to the large deliveries for the month, and the price, no doubt, would have risen considerably had it not been for the publication of the Russian ultimatum. Straits was quoted at 74/- to 74/- 10s.; Australian at 73/- to 73/- 10s., cash and for arrival. The deliveries from Holland have been 21,177 slabs of Banca and 11,753 slabs of Billiton, and from London the total deliveries of foreign are 10,344 tons. The statistical position of tin is, therefore, improved, the stock being reduced by upwards of 500 tons. The quantity on the spot and afloat in London and Holland being estimated at 15,215 tons, against 15,705 tons end of September. On Wednesday the market kept firm—Straits at 74/- 10s. cash and December prompt, and 73/- 15s. three months; Australian, 73/- to 73/- 10s., cash and arrival. On Thursday the market showed more animation, and the quantity offering was very little. Straits advanced, sales having been made at 74/- 10s. to 75/- for cash and January and February delivery, and Australian at 73/- 10s. to 73/- 15s. cash and arrival. The market on late Change closing strong, with buyers at highest price. To day the market opened at 75/- for Straits, and in course of early Change it transpired that supplies were likely to fall short, and the price then advanced immediately to 76/- for Straits, and 74/- 10s. to 75/- Australian.

THE IRON TRADE—(Griffiths's Weekly Report).—Friday Evening. The Glasgow market for Scotch pig-iron has been firm to-day, closing with buyers for g.m.b. warrants at 57s. 7½d., an advance on the week of 7½d. per ton. Makers' iron has in several instances advanced 6d. per ton. We quote No. 1 Gartshie, 65s.; Coltness, 69s.; Calder, 65s.; Langnock, 66s.; Summerlee, 68s. 6d.; Monkland, 68s. 6d.; f.o.b. Glasgow; Grangemouth, 68s. 6d.; Ardrosson; Shotts, 68s. 6d.; f.o.b. Leith; Kennil, 68s. 6d.; f.o.b. Bo'ness. The market for iron rails is constantly receding. A sale has been made of this kind of iron at a lower figure than anything reported during the last four years. This is an unfavourable augury for the trade, iron-rail making being the particular end of the trade which absorbs by far the largest portion of the malleable metal. We have still inquiries for steel rails on this market, and we believe orders of magnitude are ready to be placed, but in the present state of uncertainty, and the minimised profits of the manufacturers of this class of rails, the large makers are careless

Nov. 4, 1876.

Notices to Correspondents.

* Much inconvenience having arisen in consequence of several of the Numbers during the past year being out of print, we recommend that the Journal should be filed on receipt; it then forms an accumulating useful work of reference.

EBERHARDT AND AURORA.—I shall be glad to learn how much in the aggregate has been paid up in this company—when the next call is due—and what is its amount, and when the next meeting will be held?—A. M.: *Birkenhead*.

SIR.—When will your old correspondent, Mr. Geo. Henwood, oblige your readers with his long-promised remarks on the mining district of Teesdale, in the county of Durham?—ENQUIRER.

ORE-WASHING MACHINERY.—In reply to "R.'s" question, as to which is the best machine for separating blonde from lead. The latest machine of this class is that illustrated in last week's Journal—Taylor's Drum Dresser, which is used by the Minera Halyvane Dressing Company, near Wrexham, North Wales, solely for this purpose, and where, if "R." will forward his name and address to 15, Newgate-street, Chester, he can see the machine in operation.—H.

LECTURES ON MINING.—"H. V. T." (London Wall): Prof. Smyth's lectures have been specially reported for the *Mining Journal*; the reports are the copyright of the proprietors, and they will not be reprinted in separate form. Complete sets (one or two) of the Journals containing the lectures can still be had at 1½d. per copy, including postage.

SHARE DEALING.—We never interfere in the sale or purchase of shares; neither do we recommend any particular mine for investment or speculation, or broker through whom business should be transacted. The addressees of most of the latter appear in our advertising columns.

Received.—"Copper" (Redruth)—"R. D. A." (Sydney): The map and book not yet received.—"Shareholder" (Bath) should address his letter to the secretary of the company, who will readily send the information.—"A. B." (Dundee): The proceedings at the meeting were fully reported in the Journal on the following day.—"Amateur" (Highgate)—"Cornubiensis"—"P. M." (Manchester): We should like to have a description of the invention.—"W. C." (Buenos Ayres): Next week.—"Shareholder" (Exeter): Next week.—"E. S. R."

only wants a little increase of credit and enterprise to lead to an early return of very general business prosperity throughout the whole trading world.

WORKING COAL UNDERNEATH THE SEA.

Recent events in the North of England, and more especially the failure of the Whitburn Coal Company, who have been compelled, after an expenditure of more than 100,000/-, to abandon as unpracticable under existing conditions their attempt to sink for coal on the coast between Sunderland and Tynemouth, have directed prominent attention to the subject of working coal underneath the sea. The great northern coal field comprised in the counties of Durham and Northumberland has a frontage to the sea of many miles, and in not a few cases the owners of the collieries nearest to the German Ocean have taken from the Crown the lease of the coal for three miles underneath the sea. Nor can it be doubted that in the future, and probably before very long, vigorous attempts will be made to work the coal beneath the bed of the sea. Experience elsewhere has proved the practicability of doing this, and upon the doing of it a great deal depends so far as the duration of our coal supplies are concerned. It is evident from the fact that the owners of the Ryhope, Wearmouth, South Hetton, Hilda, Westoe, and other collieries have leased all the coal, or nearly all, on the sea board between Tyne Dock on the one hand and Castle Eden on the other, that they contemplate submarine working, and as the matter is one that must engage practical, if not paramount, attention before the lapse of many years, we may appropriately glance at the considerations and difficulties that now constitute its environment.

It has been proved by an examination of the Northern coal field, between the rivers Wearbeck and Tyne, that the coal measures on that coast rise to the sea. The bottom of the basin, speaking roughly, coincides with a line drawn from North Seton Colliery, and passing through Newsham, Seaton Delaval, Backworth, and Wallsend, to Jarrow. On the east of the line along the coast the coal measures rise to the sea, and on the west side they rise to the west. Between Jarrow and Monkwearmouth Colliery the beds are nearly flat. At Harton Colliery, close to South Shields, the beds are found to rise to the sea, or a few degrees to the north of east, and at the Ryhope Colliery, near Sunderland, so far as the workings have extended to the sea, the dip is still to the east. Therefore it has been assumed that the bottom of the basin south of Wearmouth is under the sea, and that, in fact, the whole field is simply a basin, the eastern margin of which is out at sea. As far, however, as the workings at Harton and other collieries have extended towards the sea, the rise is very gentle, and there is no condition arising out of the configuration and formation of the coal measures to preclude the possibility of working coal underneath the ocean for a very considerable distance. Something has already been done in this direction, but very little. Under Tynemouth Castle there is an old coal working to be seen at the cliff, where the coals visibly crop along the coast. Hilda Colliery is now to some extent worked underneath the sea, and so also is Ryhope, the principal colliery of its kind, if we except that of Wearmouth, on the whole of the north-east coast. We may here call attention to the singular circumstance that a series of hygrometric observations made in coal mines in the county of Durham showed that in Ryhope Colliery, beneath the sea, at a depth of 1580 ft., and at a distance of 2762 yards from the downcast shaft, the dry bulb was 73, and the wet bulb 71, while the relative humidity at 100 being saturation—was 99.2. At Wearmouth Colliery, on the other hand, at a depth of 1640 ft., and a distance of 3216 yards from the bottom of the downcast shaft, the dry bulb registered 82.25, and the wet bulb 85.25, the relative humidity being 85.6.

A great deal has been done, although not in the northern coal field, to lift this question of submarine coal working outside the region of mere theory and speculation, and place it among the practical achievements of scientific men. The Hanmer Colliery in North Wales, belonging to Sir GEORGE ELLIOT, has been worked underneath the estuary of the Dee for a considerable time, with about 100 yards of cover on the seam at its shallowest part, the stone drift rising at the rate of 1 in 100. In some places the stone coal has been worked with safety up to between 80 and 90 yards of the surface. The mode of working is to drive the board 5 yards wide, leaving a pillar of 5 yards, and the cut throughs are about 20 yards apart. On the Cheshire side of the Dee the Ness and Neston Collieries were worked many years ago by the COTTINGHAM family. The shafts of these collieries were sunk on shore, and tunnels were driven under the river to intersect the various seams of coal dipping under it; from these tunnels the coal was worked on the board and pillar or pillar and stall system. The depth of the shaft was only 5½ yards from the surface, and the coal was reached under the river at that depth, and worked to the rise to within about 30 yards of the surface. This, it may be thought, was running a good deal of danger, but no subsidence was ever observed, nor did the river water intrude upon the workings. At Whitehaven, on the north-west coast, the submarine working of coal has been carried out to a larger and more successful extent than anywhere else. The workings have advanced for more than two miles under the sea, in a line at right angles to the shore, the distance of this face from the pit being upwards of 3 miles. This working is about 150 fathoms below the bed of the ocean, but the coal is worked in the intermediate distance at all depths down to 60 or 70 yards. The dip of the coal is about 4 in. to the yard towards the sea, and the seam is 10 feet thick. The board and pillar system of working is adopted, the boards being driven 6 yards wide, and the pillars 20 yards, while the width of the cut through is about 5 yards. At 100 fathoms the whole of the pillar is taken out, but at 60 fathoms deep a certain percentage is left. At this particular spot the sea bottom is chiefly composed of rock, and there is a very strong sandstone just above the seam. At some of the mines on the west coast a good deal of damage has been done from the incursions of the sea. At Workington, a few miles further along the coast, the sea found its way into a colliery where they were inadvertently taking off the whole of the coal at a very slight depth, and drowned a number of men. In the latter case also there was the peculiarly untoward condition of a gravel bed communicating with the pit to the rise. No support is left for the roof except the coal itself. In some places the main seam is divided into two, and worked as two separate seams 10 or 12 feet apart. The Whitehaven mines dip away to the westward under the sea, and, while the coal has been worked in some places at about 300 yards depth at low water, in other cases it has been worked at a depth of not more than 60 feet. About 48 per cent. of the coal is left in the total thickness of 10 feet.

Among the important questions relating to the mining of coal which the experience of the future will be called on to decide, we are bound to include that of how coal can be most safely, and at the same time most advantageously, worked under the sea. Some authorities are of opinion that a system of compartments should be adopted, allowing only a certain breadth of coal to be worked, with a barrier between, so that the workings might not be always liable to the risk of being destroyed when they had only been partially exhausted. In Northumberland some of the collieries are kept distinct, with the idea of working only one seam-face, with a barrier between it and the next. At Whitehaven the coal is worked in three districts, which are generally separated by trouble, but in some cases the system of working hitherto adopted has been such that all independent access from the shore is now cut off. One of the principal mining authorities in the North of England has enunciated the opinion that to make sea workings perfectly secure there should be two workings—one to the rise of the sea, and the other under the sea, because if the sea were to break in anywhere it would drown out the rise workings equally with the dip, that the boundary must be preserved from the seashore right away landwards, and there must be a second and independent shaft. In cases where coal has been leased under the sea on the Durham coast, it has usually been let in patches by arrangement between the lessor and the lessee, and, however undesirable it may be to make any restrictions in restraint of trade, it is obvious that too much care cannot be taken in dealing with such a formidable risk as that of an inundation of the sea. Sir GEORGE ELLIOT is of opinion that the depth at which the coal is met with on the Durham seaboard is a guarantee against the

sea breaking into the coal workings, and that instead of leaving barriers between the workings under the sea, which might be very inconvenient, and which winnings, he calculates, will extend ten or twelve miles under the sea, it would be better not to be allowed or to work within a certain distance of the bed of the sea. While there should be some restriction imposed, so that it should not be permitted to work coal under the sea, or under rivers and estuaries, in such a manner as to ruin and destroy a whole district. As bearing intimately upon the question of the submarine working of coal, is of more than usual value to know from so high an authority as Sir GEORGE ELLIOT that he believes there would be no practical difficulty in working coal 12 miles under the sea, by putting an air-shaft in the ocean at a distance of six or seven miles from the shore, and in sinking such a shaft he does not anticipate any obstacle that could not be easily surmounted. This is a bold view, and one that throws new light and opens up new possibilities with regard to the duration of our coal supplies.

Our remarks are intended to be suggestive rather than exhaustive of this subject. It needs not that we should further insist on its importance. Along the greater part of our eastern and western sea-boards, in Scotland as well as in England, there are hundreds of millions of tons of coal which must sooner or later be brought forth from the legitimate domain of old Neptune, and made contributory to the maintenance of our industrial supremacy; and a failure here and there by the way will not deter our great engineers and industrialists from exerting renewed efforts to make themselves the masters of the situation.

A GREAT BELGIAN COMPANY.

Progress has just been reported by the great Belgian mechanical concern known as the JOHN COCKERILL Company. The total turnover of 1875-6 was 1,161,052/-, as compared with 1,377,335/- in 1874-5, and 1,607,759/- in 1873-4. The rough profit realised in 1875-6 was 47,798/-, as compared with 65,066/- in 1874-5, so that the company not only did less business last year, but the financial result was less favourable than in the preceding twelve months. The profits of last year were also more apparent than real, for after making sundry statutory deductions the balance remaining at the credit of the profit and loss account was only 10,382/-, and this balance is to be carried forward to the credit of 1875-7; so that the shareholders will receive no dividend for 1875-6. The prudence of this course will, probably, be admitted when we state that the debt due by the company to its bankers June 30, 1873, was 112,756/-, as compared with 108,903/- June 30, 1875. These adverse balances represent, of course, the floating debt of the company, and the larger the amount of cash retained on hand the more manageable the floating debt naturally is. The fact is the JOHN COCKERILL Company has suffered like almost every other large mechanical undertaking in Europe from the difficulties and depression of the times, and the shareholders may, perhaps, be congratulated upon the fact that they emerged from 1875-6 without sustaining any positive loss. The financial position of the company will, probably, be improved and strengthened by the realisation of the Kattenberg estate at Antwerp, which has been expropriated for the execution of great maritime works at that port, and which is expected to produce more than 40,000/- It should be remarked that the company has had some great works on hand on capital account for two or three years past, and that these works have absorbed its resources to some extent. These works have comprised the continuation and completion of a large establishment for rolling steel rails, with tools, engines, boilers, &c., and erected and equipped at a cost of 24,012/- Sinking and masonry works have also been carried on at the Marie Pit, at Collard; foundations and buildings have also been put in for engines and boilers at the same pit, upon which an expenditure of 16,705/- had been made to June 30, 1875. A further outlay upon the Marie pit is expected to be made in the course of 1875-7.

The staff employed by the company at the close of June, 1875, was 7920, as compared with 8510 at the close of June, 1875. The wages paid by the company in 1875-6 amounted to 379,340/-, as compared with 409,535/- in 1874-5. The reduction in the aggregate amount of wages paid in 1875-6 was, of course, largely attributable to the diminution in the number of persons employed by the undertaking. The sum expended by the company for medical assistance in 1875-6 was 7682/- The value of the work on hand at the close of June, 1876, was 219,200/-, as compared with 333,300/- at the close of June, 1875. The value of the work on hand on Oct. 15, 1875, had risen to 267,480/-, so that the position of the company as regards the employment in store for it would appear to have somewhat improved during July, August, and September. At the same time, it should be remarked that the value of the work on hand on Oct. 15, 1875, was estimated at 410,280/-, so that the undertaking is less actively occupied than it was twelve months since. The difference between the two totals of 410,280/- and 267,480/- is due to the fact that in 1874-5 the company obtained orders from the Administration of the Belgian State Railways for 11,000 tons of steel rails, while the corresponding order secured in 1875-6 only amounted to 2000 tons. In the autumn of 1875 the steamer Egypt also figured in the company's order book for 33,000/- As regards the business which the company has now in course of negotiation, it is either unimportant, or is secured with considerable difficulty. The great continental railway companies and continental Governments might soon change this state of things if they chose, but they appear slow to do so. The French railway companies have, certainly, acted differently, and have given out considerable orders for steel rails, locomotives, and trucks; but French orders go, as a rule, to French industrials. The Belgian Minister of Public Works has certainly ordered some thousands of tons of rails, but his orders are not at all comparable with those given out in France.

ALL THAT GLITTERS IS NOT GOLD.

The truth of this generally acknowledged aphorism is being practically illustrated by everyday experience in reference to mining properties as a whole, but more especially to collieries. Some five or six years since the coal trade was prosperous. Our great manufacturers were active—every hand willing and able to work and employ—our merchandise was carried to every part of the world—there was a great demand for our goods of every description—our iron and steel works turned out more than their average make—the whole commercial pulse of the nation beat rapidly, if not soundly—and the prices of coal were inflated too high for permanent health. That was the time for the floating of bubble companies in connection with the iron and coal trades. Collieries already worked to a great extent, at least of their easily accessible and, therefore, money-making products, and other pits of comparatively worthless coals were no sooner placed in the market for disposal than interested persons formed limited liability companies for their purchase and working. An ornamental list of directors, an energetic and not over-scrupulous secretary, and a glowingly-written prospectus, were alone needed to secure the necessary capital. Men who were doing well in the iron and coal trades, and on the high road to competency, with that inordinate haste to be rich which is so inimical to ultimate success, drained their business of the necessary capital in order to purchase shares in limited companies, of which they knew nothing and against which they were repeatedly cautioned.

When the coal and iron "fever" was raging we over and over again warned our readers against this illegitimate trading. We often "sounded the alarm," urging that "all that glitters is not gold." All, however, to no purpose; our warning voice was unheeded. Men failed to read the then signs of the times; but the experience of the past two years has proved we were right, and hundreds, if not indeed thousands, have now to regret that they risked their hard-earned cash in concerns which have proved the most signal failures. But the "mania" (for it was nothing less) spread from the capitals and the commercial and trading communities to the working miners. The spirit of discontent with the high wages they were receiving was easily fanned into flames by the suicidal policy advocated by the leaders of Trades Unions.

Mr. HALLIDAY is well known to have suggested that co-operation

amongst the miners themselves was the great heal-all for all the wrongs, real or imaginary, of the collier. In many instances the advice of Mr. HALLIDAY was acted upon, but co-operative mining is a complete and signal failure. A few years since the miners of South Yorkshire purchased a mine at a sum of between 70,000 and 80,000/-—more than one half of which sum, however, was raised upon debentures. The mine was to be worked upon the co-operative principle, the members personally receiving the benefit. For a time—a very short time—all went on well; but the day of reckoning, of severe trial, came, and it is now acknowledged that the mine has been a losing concern for some time past, with, it is alleged, water in the pit. Matters have assumed such a serious complexion that a meeting of directors and debenture holders was held a few weeks since at Derby, when it was stated that the colliery had never paid since it came into the hands of the association, and it was decided to discharge the whole of the colliers without delay. The same plan of co-operation has been tried in South Wales, and with the same results. The Risca Colliery, near Pontypridd, was purchased by the operative colliers some time since, but the funds were quickly exhausted, and the men brought to straits which they never experienced when working under the old regime—i.e., when a responsible proprietor, whose whole interests, pecuniary and otherwise, were bound up in the success of the colliery, and the welfare of his men.

We quote these two cases not because they are by any means isolated instances, but because they illustrate the truth of what we wish to impress upon our readers. Co-operation does not answer in the practical working of collieries, and experience has proved that the same remark will apply with equal force to ironworks. The working collier, puddler, and furnace man may feel interested in turning out the largest yield of coal or iron, but much more than this is necessary for success. The principal causes of failure in all co-operative undertakings is the fact that the managers and directors have not that great pecuniary interest in the affair as to induce them to devote their whole time and energies to its successful working; or their anxiety to show a good balance-sheet, and announce high dividends, tempt them to sell at unremunerative prices. Of course, there are exceptions to every rule, and some of our co-operative undertakings are ably managed, and yield good returns. One of the first essentials for the success of any large works is that one able practical man should have autocratic authority, and if possible made personally interested in its success.

Co-operation in connection with our mining operations and our other staple industries has now been tried, and in the day of trial found wanting. The principle has utterly failed, ending in many instances in the most complete and signal collapse. These failures should teach commercial men that it is unwise to drain their business for adventures of which they know nothing, and should show operative miners and puddlers that "all is not gold that glitters"—that the owners of collieries and ironworks have expenses and anxieties of which the men themselves never can have experience or knowledge. The true interests of the owners of mining properties, of ironworks and such other extensive undertakings, and their successful development, is not promoted by ephemeral bubble companies, but in the steady and persevering determination of the individual firm itself, which in days of yore proved so eminently successful, and which will still do so in the future, when the modern system of co-operation shall have passed away.

GOLD MINING IN VICTORIA.—The statistics for the quarter ending June, 1876, shows that there were employed in alluvial mining 16,637 Europeans and 11,046 Chinese, and in quartz mining 14,678 Europeans and 92 Chinese, making a grand total of 42,453. The approximate value of the mining plant in use was 2,032,338/. The number of square miles of auriferous ground actually worked upon was 110½; and the number of distinct quartz reefs actually proved to be auriferous was 3226. The total quantity of gold got during the quarter was—alluvial, 93,924 ozs.; and from quartz, 155,357 ozs., equal to 249,281 4 ozs. The quartz yielded at the rate of 11 dwt. 23 grs. of gold, 248,197 tons crushed having produced 136,631 4 ozs. The quartz tailings and mullock yielded at the rate of 2 dwt. 16 2 grs. per ton, 7685 tons having produced 1032 2 ozs. The pyrites and magnetites operated on yielded at the rate of 2 ozs. 8 dwt. 20 4 grs. per ton, 1759 4 tons producing 4297 ozs. The technical reports from the various mining surveyors and registrars show that in many places good returns are being obtained.

BATTISH ENTERPRISE IN CANADA.—We learn that Mr. C. Leslie Hill, As. Ins. C.E., F.C.S., Civil and Mining Engineer, late of Bartholomew House, London, has been appointed general manager of the mines and works of the Canadian Copper and Sulphur Company Limited, situated at Capleton, Province of Quebec, Canada.

EXPORTS OF STEAM-ENGINES.—The value of the steam-engines exported from the United Kingdom in September was 143,924/, as compared with 198,294/ in September, 1875, and 260,050/ in September, 1874. The aggregate value of the steam-engines exported in the nine months ending Sept. 30 this year was 1,470,531/, as compared with 2,028,970/ in the corresponding period of 1875, and 3,903,081/ in the corresponding period of 1874. Our best customers for steam-engines this year have been Russia, Italy, British India, and Australia. The value of the steam-engines shipped to Russia Sept. 30 this year was 121,324/, as compared with 266,884/ in the corresponding period of 1875, and 262,471/ in the corresponding period of 1874; to Italy, 142,584/, against 119,041/ and 158,695/; to British India, 174,667/, against 299,982/ and 234,816/; and to Australia, 161,664/, against 189,627/ and 209,425/. Our exports of steam-engines to Germany have considerably declined this year.

THE NEW RIVER COMPANY'S SHARES.—The large room at the Auction Mart was crowded on Wednesday, in the sale, by Messrs. Edwin Fox and Bousfield, of shares in this undertaking. One-third of a King's Original Share was first submitted, and after a spirited competition realised 3135/, or at the rate of 94,050/ for an ordinary share. The peculiarity of these shares is that they are a freehold property, and even a fractional part conveys votes for the council in which the company's estates are situated. Twenty-nine of the New Shares (70/ paid) were next offered, and were all sold at 315/ per share. These are the highest prices ever obtained, and a considerable increase on those obtained by the same firm at the sale in June last, when the King's Shares realised at the rate of 2900/ per share, and the New Shares, with 60/ paid, fetched 285/ 20/5. At the early part of this century a King's Share was sold for 7000/; and even at Messrs. Edwin Fox and Bousfield's sale of these shares in 1870, the price of a King's Share was 42,350/, which at the time thought to be remarkably high.

NORTH ABERCARNE BLACK VEIN STEAM COAL COMPANY.—The directors inform the shareholders of this company that the black vein has been struck, and is found to be 10 ft. in thickness, 29 ft., as published in last week's *Mining Journal*. The company's engineer estimated this vein at 8 ft. 6 in., and covering an area of 120 acres, to yield 11,475,000 tons; this increased thickness will add greatly to the value of the property, and bring up the total quantity of steam coal to 13,500,000 tons. Two other seams have passed through, computed to yield 7,650,000 tons of coal. A brilliant future should be in store for the fortunate shareholders.

THE COMBMARTIN MINE.—It may not be generally known that both Devon has been annually represented at the civic feast of the Mayor for a considerable number of years past. The representative in question is a "permanent official" of the State, and has done so for nearly 300 years, and, should the State continue to exist at time, is likely to be so for 300 years to come. This "official" has always been on the most intimate terms with the members of the Corporation, and has kissed the lips of many a Lord Mayor, but, though at times brimful of alcoholic liquor, has never divulged a single State secret. I allude to the silver cup, which is the produce of the Combmartin Mines, which cup was presented to Sir R. Martin, right, Lord Mayor of London, and is inscribed and dated 1593. The silver mines at Combmartin were worked at a very early period, and Camden, writing of them, says:—"The first funding and work-

ing of which there are no certain records remayninge." The mines have been several times closed and re-opened, a great quantity of silver has been landed and refined from them, and I believe a company, comprising some very energetic gentlemen, is still at work at Combmartin.

TRADE OF THE TYNE AND WEAR.

Nov. 1.—The main feature in the mineral trade here is still the brisk demand for all first-class coals and coke for export. Most of the first-class collieries on the Tyne will be well employed during the winter. Much attention continues to be given to the small coal question. When hard steam coal is produced it is evident that it is quite possible to reduce the make of small coal very materially, and this is of the utmost consequence, as the small coals produced by these works are of no commercial value. At the present moment these small coals are sent by rail in some cases 15 miles, and sold at 3s. 6d. per ton, little more than the rail cost. The demand for manufacturing coals, coke, and all inferior coals is far from sufficient to keep the works going, and the ironworks generally, that is the finished ironworks, are only very moderately employed. New gasworks have been recently completed at Redheugh-on-the-Tyne. The works are on a large scale, and are fitted up in every respect on the latest modern plans. They occupy 25 acres of ground, and when in full work will consume 200 tons of coals per day. The holder is the most prominent object, and its capacity is 1,000,000 cubic feet. The Chartered Gas Company, in London, have holders twice the size, yet it appears that the Royal Society in 1814 advised the Government to restrict the size of gasometers to a capacity of 6000 cubic feet. This shows very clearly the progress made since that time in gas making. These works have been constructed on the model of the Beckton Gasworks, in London, which are the largest works of the kind in the world.

There was a good attendance at Middlesborough on Tuesday, but the general tone of the trade was rather quiet. Makers are naturally trying to keep up their prices, but merchants and others have been selling on easier terms, anticipating that there will be shortly lower prices current. The late improvement in the trade it must now be confessed has not been well maintained. The general quotations are No. 1, 50s.; No. 3, 46s.; No. 4 forge, 43s. Forge iron is in less demand. There has been a steady delivery of pig metal for shipment, but on this score a reduction may soon be expected to appear. Much dissatisfaction has been expressed amongst ironmasters and coalowners at the decision of the North Eastern Railway Company not to further reduce the rates in mineral traffic which were advanced in 1872 so very seriously. The trade claim that with the present depression no part of the advance should be retained. In the finished iron department there is no appreciable change to note either in demand or price. There is not much doing, except in plates and other shipbuilding iron, and also the bar trade. The main trade of the district, that of railway iron, keeps in a very depressed condition. The coal and coke trades are not much altered, though the approach of winter has slightly hardened some classes of coals.

NORTH OF ENGLAND INSTITUTE OF MINING AND MECHANICAL ENGINEERS.—A general meeting of members will be held, on Saturday, in the Wood Memorial Hall. After the routine business and the election of members is disposed of the following papers will be read:—"Further Notes on Gases Exuded by Different Welsh Coals," by Prof. A. Franz Marrico, M.A.; "Some Remarks on Mr. E. F. Boyd's paper on the Coal Measures and Oil Produce of the United States of America," by Mr. G. C. Greenwell. The following papers will be open for discussion:—"On the Application of Counterbalancing and Expansion to Winding-Engines," by Mr. M. Daglish; "On the Larger Divisions of the Carboniferous System in Northumberland," by Mr. G. A. Lebour; "On the Long Wall Works at East Hetton Colliery," by Mr. W. O. Wood. A full report of the proceedings will be given in next week's *Journal*.

REPORT FROM CORNWALL.

Nov. 2.—The manner in which the smelters dropped the tin standard, with far less consideration than the fashion in which they raised it, was not among the least absurd of the consequences of the recent panic, though certainly it fell short—being a profitable transaction from the smelters' point of view—of the absurdity of those good folks who rushed into the market to get rid of their gas and water shares, because foreign bonds went down at a time when everybody was asking what money could be invested in. However, since last week the smelters put up the standard 3l., as against their drop of 2l., we must congratulate ourselves that matters have been no worse, and that the career of improvement has not been checked for a longer period. Still there is very little doubt that present prices very inadequately represent the real value of the metal. If the rise was 10l. instead of 3l. it would not be a bit more than, so far as we can see, the circumstances would fairly admit, and that being so we may look for further advances ere long. There is a good deal of money now to be made by wise investment.

The Royal Cornwall Geological Society, which has reached its sixtieth year, continues to flourish, and its annual meeting, held under the presidency of Mr. W. W. Smyth, F.R.S., was peculiarly interesting. The late Mr. W. J. Henwood, F.R.S., left the society a legacy of 100/, and the financial condition of its affairs is such that the treasurer has been enabled to invest that amount. Moreover, during the year a curious illustration was supplied of the high value set upon the work done by the society. In the society's Transactions Mr. Henwood was the most extensive and valued contributor. At the sale of his library a set of those Transactions brought no less than 10%. The museum of the society has been extended, and the work of arrangement carried forward. Nor has practical work in other directions been wanting. A prize of 5l. was offered for the best essay on any mine or mining district of Cornwall. This was won by Messrs. H. Eddy and J. Bennett, of Pendine, with an essay on North Levant. Next year Mr. Bassett, of Tehidy, will offer a similar prize under like conditions. The papers read at the meeting included, "On the occurrence of Tin in an Elvan Course at Wheal Jennings," by G. Seymour; "Remarks on some Tin Lodes in the St. Agnes District," by Dr. Foster, F.G.S.; "The Sand and Clay Deposits at St. Agnes Beacon," by B. Kitto, F.G.S., and A. Davis; "Notes on the Hensbarrow Granite District," by J. H. Collins, F.G.S. Want of time, however, prevented full justice being done them.

Dr. Foster, with regard to the tin lodes at St. Agnes, said they could now be studied at greater depth than formerly; other lodes were, in some cases, being wrought; and there was a great want of cross-sections of the lodes in previous descriptions of the mines in the district. Penhalls Mine, situated on the edge of the cliff just east of Trevennance Cove, was singularly interesting on account of the numerous "heaves" which occur there. Wheal Kitty, which lies to the south of Penhalls Mine, was mainly worked on one lode—the Kitty lode. On his last visit to this mine he discovered some specimens of apatite, a mineral which had previously been found at only one mine in the parish—Wheal Kind. After describing the lode at Wheal Coates Dr. Foster referred to Cligga. The section that could be seen at low water on the western side of Cligga point was one of the most remarkable in the county. Of the well-known men who had described the sections, Prof. Sedgwick seemed to have had the most correct idea, as he described the granite as being intersected by numberless parallel metalliferous fissures. Dr. Foster described the section at Cligga as magnificent. He doubted if any country in the world could exhibit a section so full of interest to the student of tin lodes. He supposed the granite to have been once in a soft state, and whilst in that condition to have broken through the killas. Whilst cooling it contracted, leaving a series of small open fissures. These were filled by vapours and solutions which proceeded from below, and not only were the minerals deposited in them, but the same agents decomposed the granite walls bounding the fissures. The curvature of the fissures was most extraordinary—due, perhaps, to the position of the killas, which must have covered the granite entirely.

The paper of Mr. Collins was most able and elaborate, and dealt in minute detail with the phenomena of the Hensbarrow granite dis-

trict—one of peculiar interest, inasmuch as it is therefrom that the chief supplies of china-clay and china-stone are raised. Mr. Collins stated the indications of the granite to be of a very complex character. Wherever the granite and the slate had come into contact the latter had been altered. There was no trace whatever of glacial action in the district.

Wheal Jennings, referred to by Mr. Seymour, was formerly known as Parbola. There is no lode, but the sett is traversed by a powerful tin-bearing elvan course, which traverses the country generally in an east-and-west direction. The general character of the deposit approximated somewhat to that of the German Stockwerke, consisting of an infinite number of small veins running through a now stratified rock, the whole body of which was traversed by them. It differed, however, from true Stockwerke, inasmuch as the tinbearing branches followed one arbitrary direction. Such a deposit, however, was by no means without precedent in Cornwall, and the names of Castle-an-Dinas at St. Columb, the Terras Mine at Grampound Road, and the celebrated Wherry Mine in Mount's Bay might be quoted as occurrences of a similar nature. The tin-bearing elvan course in question traverses the country in a generally east-and-west direction, passing through the South Rosewarne and Parbola sets, and running east to the Trevoole elvan quarries by the side of the Helston Road, where some fine stones of tin had been obtained from it.

Possibly the author of the very interesting notices of the deep mines of this country, which appeared in last week's *Mining Journal*, may have intended to confine his remarks, so far as the United Kingdom is concerned, to the North of England, in which case there would be little, if any, need to supplement them. But if they were intended to be general the omission of Cornwall in his notices and calculations is rather a serious one. It is quite true that there are one or two mines in the North deeper than any in the West, but they are very few, and we question very much whether the average depth of the mines in our chief mining districts is not greater than the average of those of any English coal field. There are dozens of mines in Cornwall more than 500 yards in depth, several above 600, and even 700 yards is by no means unknown. The custom of expressing the depths in fathoms may mislead the uninitiated, but, of course, cannot have misled the gentleman in question, though he may have overlooked another point—the fact that the depth of a Cornish mine is not calculated from the surface, which in such a hilly country varies very much, but from the adit level—the point at which the water raised is discharged. This fact causes the actual depth of a mine to be often much under-estimated, as the adit level may be 20, 30, or even 40 fms. below the point at which the sinking began, and the figures currently quoted as the depth of a mine be that much short of the depth actually attained. Except in a few instances on the Continent, the Cornish mines are the deepest metalliferous workings in the world.

REPORT FROM THE NORTH OF ENGLAND.

While there has not been any real change in the iron trade of the Cleveland district during the past few days, it is nevertheless evident that there is not much likelihood of matters mending materially until the spring. The quantity of pig-iron now produced has fallen off considerably as compared with a month or six weeks ago; nor is there any symptom or sign of an increase in this department. It is all but a foregone conclusion, although the returns are not yet available, that not only will it be found that the make of pig iron for the month of October has fallen off, but that this result has been accompanied by a decline in the shipments, especially coastwise, and an increase in the stocks of iron on makers' hands. Scotland in particular has diminished her demands upon Cleveland, and appears to be finding a more ready and remunerative market for her own iron. The close of the navigation season is now at hand—in some cases it is practically an accomplished fact—and hence the requirements of shippers on continental account are not so heavy or so urgent as they were. There is no mineral worth speaking of in local consumption, but in some cases rather the reverse, and putting all these facts together it will be sufficiently evident that the time is not opportune for an improvement in the iron trade of the North of England.

At Tuesday's market at Middlesborough there was a fair amount of enquiry, but business generally was rather contracted, as enquiries do not, except in a very few cases of trifling moment, lead to orders. Quotations, however, are pretty firmly maintained, makers who can afford to hold believing that if not sooner they will at any rate be able to command better rates in the spring. Some weak holders who have been intimidated into the belief that they made a mistake in buying iron some weeks ago at 1s. to 1s. 6d. less than current rates are, however, anxious to sell out at 6d. to 1s. advance, and this rather had the effect of weakening the market. Foundry iron is in pretty good request. Forge iron is not so much enquired after.

A great deal of disappointment, and not a little resentment, has been evoked by the refusal of the North-Eastern Railway Company to accede to the application made a fortnight ago on behalf of the Cleveland Ironmasters' Association and the North of England Iron Manufacturers' Association for the reduction of the mineral rates to the level of 1871, when an advance varying from 10 to 15 per cent. came into operation. The directors of the North-Eastern Railway have not assigned any reason for their refusal. It is, however, generally understood to be in consequence of the continued increase of working expenditure. That increase is still existent in every branch of outlay, and although in respect of the cost of locomotive power there has recently been a large reduction, there are other items of cost neither so elastic nor so liable to fluctuation. It is, I believe, a fact that the working expenses at the present time are about 53 per cent. of the total receipts of the company, or fully 9 per cent. more than the percentage of working cost in 1870. This is, of course, a very serious difference, and one that the directors consider themselves bound to provide for as far as possible by allowing mineral rates to be maintained, at least in the meantime. The freighters, on the other hand, distinctly urge that it was understood that the increased rates when they were imposed were not only to be temporary but entirely coincident with the duration of the increased cost of fuel, and out of which circumstance they originated. There can be no doubt that a reduction in the mineral rates now charged would be of substantial service to the iron and coal trade, and from their own point of view they have a good right to claim it, but while the working expenditure absorbs 53 or 54 per cent. of the total receipts of the company, the directors, judging from their policy up to the present time, are little likely to give heed to the claim.

I understand that the directors of the Darlington Iron Company are about to make arrangements for holding a special meeting of the shareholders in order that the affairs of the company may be enquired into. Mr. Joseph Dodds, M.P., the vice-chairman of the company, has addressed a long letter to the shareholders, in the course of which he justifies himself from certain assertions made by Mr. W. E. Sartree, one of the shareholders, and points out that the company, although lately suffering very considerably from the current depression, is in reality in a much better position than the majority of such firms—that is, firms exclusively engaged in the rail trade of the North of England. The directors, in fact, profess to be anxious rather to court than to shun publicity, and I am informed by one of their members that the present agitation will be found to have been totally without just cause or excuse. However, we shall know in a few days what the actual position of the company is. A meeting of the creditors of Messrs. Thomas Charlton and Company, colliery owners and ironstone mine proprietors, and of Mr. R. H. Charlton, of the Stranton Works, West Hartlepool, was held at Darlington on Monday, when it was resolved to accept a composition of 7s. 6d. in 17. in the former and 10s. in 17. in the latter estate.

There is really no improvement in the finished iron trade, fully a thousand puddling-furnaces being now laid off between the Tees and the Tyne. Plates continue to be a good deal enquired after, and it is believed that the spurt which has taken place in the shipbuilding trade will be maintained. Shippers are apparently anxious to take advantage of the opportunity now presented of buying plates at a cheap figure, and if railway companies could only see things

COAL CONTRACT.

THE DIRECTORS of the SOUTHWARK AND VAUXHALL WATER COMPANY are prepared to RECEIVE TENDERS for about FIFTY THOUSAND TONS OF COAL
the kinds set forth in the specification, delivered into stores of their several washing stations.
The specification and form of tender can be obtained at the Engineer's Office upon demand, and the same must be forwarded not later than November 8, 1876, to the Chairman, Southwark and Vauxhall Water Company, 10, New-street, Southwark, London, S.E., endorsed "Tender for Coal."
By order.

PEDN-AN-DREA UNITED MINES.

ALL PERSONS having CLAIMS AGAINST THIS MINE are requested to forward FULL PARTICULARS of the same to the Offices of the Official Liquidator, 5, Austinfras, London, on or before the 13th November prox., that may be examined, and, if found correct, SETTLED.
By Order, J. H. MURCHISON, Secretary,
Austinfras, London, 19th October, 1876.

DICKMONT CONSOLIDATED MINING COMPANY (LIMITED).

Capital, 54,000 shares, £5 each.

ELEVENTH DIVISION D.

Notice is hereby given, that the Directors of this company have DECLARED a DIVIDEND of SEVEN SHILLINGS AND SIXPENCE PER SHARE, PAYABLE on and after the 8th November instant, at the company's bankers, the Bank of London, Prince's street, E.C.
And notice is hereby given, that the Transfer-books of the company will be opened on Friday, the 3rd, to Wednesday, the 8th November instant, both days inclusive.
By order of the Board.

THOMAS WESTBURY HALL, Secretary.

ME THORP'S GAWBER HALL COLLIERIES (LIMITED) REQUIRE (immediately) a SALESMAN and COLLECTOR, who must be thoroughly acquainted with the Town and Coal Merchants of Yorkshire and Lancashire, and applications, stating salary required, accompanied by testimonials, must be addressed to the Secretary, Willow Bank Colliery, Barnsley, on or before the 8th November next.

HARRY BUSWELL, Secretary.

LAXRWT LEAD MINING COMPANY (LIMITED).—WANTED SHARES. State number and lowest price to W. WARD, Stock Broker, Crosby House, Bishopsgate-street, London, E.C.

OVAL SCHOOL OF MINES.—Mr. WARINGTON W. SMYTH, F.R.S., will COMMENCE A COURSE OF SIXTY LECTURES ON MINING at half past Three, on Thursday, the 9th November, to be continued at the same hour on each succeeding Tuesday, Thursday, and Monday. Fee for the Course, £4.

TRENTHAM REEKS, Registrar.

EAST TRESAVEAN COPPER MINE.

In the parish of GWENNAP, CORNWALL.
Capital, £10,000; in 5000 (£2) shares.
5s. per share on application, and 2s. 6d. per share on allotment.
Balance (if required), in calls not exceeding 2s. 6d. per share, at intervals of not less than three months.

Appointment of directors to be left for the decision of the shareholders at the first meeting.
MANAGER AND PURSER.
Mr. CHARLES BAWDEN, Poldice House, St. Day, Scorrier, Cornwall.
BANKERS.

Messrs. TWEEDEY, WILLIAMS, AND CO., Redruth, Cornwall.
Messrs. GLYN, MILLS, AND CO., London.

The object of this company is to open out the celebrated Tresavean Mine lode, of which grants have been obtained at the low dues of 1-20th. It is close proximity to mines that have been immensely productive and profitable, on the line of continuation (eastward) of the celebrated Tresavean Mine, no longer than 40 years back figured as one of the greatest dividend-paying mines in Cornwall. In the year 1833 the shareholders received in dividends the shares (100th) after advanced from £10 to £2000 each. The mine continues to pay highly remunerative dividends for many years, amounting in the last 20 years to a half-million sterling.

East Tresavean grant is about 400 fms. from east to west on the course of the mine, and 300 fms. in width, affording scope for opening out a deep and extensive (surface outcrop) of one of the lodes is to be seen at about below the surface, it being intersected by the well-known important great cross-course to which is not a little to be attributed the immense accumulation of copper ore met with in Great Consols United and Clifford Mines; which for 40 years continued to produce enormous quantities of copper ore, and large dividends. Moreover, an elvan course of correspondingly crystallized to the one in connection with the great body of ore in Tresavean spans the East Tresavean lode spoken of.

Justified by the important facts stated, more particularly the similarity of ministructural characteristic conditions of the lode in question to the lodes of the most abundantly productive mines of the district (in the same formation as this grant is in), is to be confidently relied on that comparative depth of development is required to ensure the realization of a copper of very great value in East Tresavean. This opinion is justified by analogy, as practically scientific mining authorities will even at great importance, proved it to be the safest guide in forming their opinions of the inherent mining properties.

Intended to have a 40-in. diameter cylinder steam-engine for this mine to effect its development—say, in the first place, to a depth of 50 fms., at several of the greatest mines of Gwenap commenced being ore producing, and more and more productive in depth, and paying larger profits than any in the other districts of Cornwall. Indeed the Gwenap copper mines have altogether such astounding profits as have gained for them a wide world, it being well known that many of the leading Cornish families are in them for their influential positions and wealth. The probabilities are in East Tresavean proving such a rich mine as will revive the remembrance of Gwenap copper mining of former days, there being many in the parish that have profited hundreds of thousands of pounds.

Only intimated by the amount of capital nominated to fit the maximum of shareholders, not meaning it to be understood that anything like so will be required to open out and establish East Tresavean as a permanently dividend-paying mine, which it is confidently relied on will not necessitate expenditure than £6000. If so much, paying for all engine-power, machinery and appliances, and indeed everything required, thus giving a rich comparatively little money.

To inspect the above, apply to the Manager in charge on the mine; and for further particulars to Mr. CHARLES WILLIAM CLINTON, the Official Liquidator of the said company, at the Stannaries Court Office, Truro.

HODGE, HOCKIN, AND MARRACK, Truro.
(Agents for S. T. G. Downing, Redruth, Solicitor for the Official Liquidator.)

Dated Stannaries Court Office, Truro, the 1st day of November, 1876.

In the Court of the Vice-Warden of the Stannaries.
Stannaries of Cornwall.

IN the MATTER of the COMPANIES ACT, 1862, and of the WEST GWENNAP CONSOLS MINING COMPANY.—The Registrar of this Court has appointed SATURDAY, the 11th day of November next, at Eleven o'clock in the forenoon, at the Registrar's Office, Truro, TO SETTLE THE LIST OF CONTRIBUTORIES of the above-named company, now made out and deposited at the said office.

FREDERICK MARSHALL, Registrar.

In the Court of the Vice-Warden of the Stannaries.
Stannaries of Cornwall.

IN the MATTER of the COMPANIES ACT, 1862, and of the WEST GWENNAP CONSOLS MINING COMPANY.—ALL CREDITORS OR CLAIMANTS of the above-named company, who have not received notice from the Official Liquidator thereof that their claims have been already admitted, are hereby required to COME IN and PROVE their several DEBTS or CLAIMS at the Registrar's Office, Truro, on Monday, the 13th day of November instant, at Eleven o'clock in the forenoon, or, in default thereof, they will be EXCLUDED from the BENEFIT of any DISTRIBUTION made before such proof. And for the purpose of such proof they are to attend in person, or by their solicitors or competent agents, at the time and place above mentioned.

FREDERICK MARSHALL, Registrar.

In the Court of the Vice-Warden of the Stannaries.
Stannaries of Cornwall.

IN the MATTER of the COMPANIES ACT, 1862, and of the WEST WHEAL GORLAND MINING COMPANY.—ALL CREDITORS OR CLAIMANTS of the above-named company, who have not received notice from the Official Liquidator thereof that their claims have been already admitted, are hereby required to COME IN and PROVE their several DEBTS or CLAIMS at the Registrar's Office, Truro, on Thursday, the 16th day of November instant, at Eleven o'clock in the forenoon, or, in default thereof, they will be EXCLUDED from the BENEFIT of any DISTRIBUTION made before such proof. And for the purpose of such proof they are to attend in person, or by their solicitors or competent agents, at the time and place above mentioned.

FREDERICK MARSHALL, Registrar.

In the Court of the Vice-Warden of the Stannaries.
Stannaries of Cornwall.

IN the MATTER of the COMPANIES ACTS, 1862 and 1867, and of the KINGSTON CONSOLS SILVER-LEAD MINING COMPANY (LIMITED).—Notice is hereby given, that a PETITION for the WINDING-UP of the above-named company by the Court was, on the 30th day of October last, presented to the Vice-Warden of the Stannaries by William Donald Ryrie, of No. 15, Stratford-place, Oxford-street, in the county of Middlesex, Gentleman, claiming to be creditor of the said company, and that the said petition is directed to be heard before the Vice-Warden, at the Prince's Hall, in Truro, within the said Stannaries, on Thursday, the 23rd day of November instant, at Twelve o'clock at noon.

Any contributory or creditor of the company may appear at the hearing and oppose the same, provided he has given at least two clear days' notice to the petitioner, his solicitor, or his agent, of his intention to do so, such notice to be forthwith forwarded to P. P. Smith, Esq., Secretary of the Vice-Warden, Truro.

Every such contributory or creditor is entitled to a copy of the petition and affidavit verifying the same from the petitioner, his solicitor, or his agents, within 24 hours after requiring the same, on payment of the regulated charge per folio.

Affidavits intended to be used at the hearing, in opposition to the petition, must be filed at the Registrar's Office, Truro, on or before the 21st day of November instant, and notice thereof must at the same time be given to the petitioner, his solicitor, or his agent.

HODGE, HOCKIN, AND MARRACK, Truro, Cornwall.
(Agents for T. H. Harrison, 89, London Wall, London, E.C., Solicitor for the Petitioner.)

Dated Truro, November 2nd, 1876.

In the Court of the Vice-Warden of the Stannaries.
Stannaries of Cornwall.

IN the MATTER of the COMPANIES ACTS, 1862 and 1867, and of the WHEAL CARDELL MINING COMPANY.—ALL CREDITORS OR CLAIMANTS of the above-named company, who have not received notice from the Official Liquidator thereof that their claims have been already admitted, are hereby required to COME IN and PROVE their several DEBTS or CLAIMS at the Registrar's Office, Truro, within the said Stannaries, on Wednesday, the 15th day of November instant, at the hour of Eleven o'clock in the forenoon; or, in default thereof, they will be EXCLUDED from the BENEFIT of any DISTRIBUTION made before such proof. And for the purpose of such proof they are either to attend in person, or by their solicitors or competent agents, at the place and time above mentioned.

FREDERICK MARSHALL, Registrar.

Dated Registrar's Office, Truro, 2nd November, 1876.

In the Court of the Vice-Warden of the Stannaries.
Stannaries of Cornwall.

IN the MATTER of the COMPANIES ACT, 1862, and of the WEST WHEAL GORLAND MINING COMPANY.—TO BE SOLD, under the direction of the Registrar of this Court, on Wednesday, the 15th day of November instant, at Eleven o'clock in the forenoon, at West Wheal Gorland Mine, in the parish of Gwenap, within the said Stannaries, in one or more Lots, subject to such conditions as shall be then and there produced, ALL that the INTEREST of the said company of and in the SETT under which its operations within and upon the said mine have been carried on, together with the WHOLE of the undeclared.

MINING PLANT, MACHINERY, MATERIALS, AND EFFECTS Belonging to the said company, now being within and upon the said mine, viz.:—

ONE 24 in. ROTARY ENGINE, 4 ft. stroke, with two flywheels, and ONE BOILER, about 10 tons; 16 head iron stamp axle, with driver and cog wheel, frames, heads, and lifters; about 30 fms. 8 and 9 in. pumps, plunger, &c., 14 fms. 8 in. drawing lift, and 10 fms. 6 in. drawing lifts, about 30 fms. 8 in. rods and plates, 90 fms. of ladders; large cog wheel, iron shaft and blocks for working flat rods, 55 fms. round iron flat rods, 3 horse whines, 4 shaft tackles with shives, stands and pulleys, 2 balance bars, wire and hemp ropes, several kibbles, 2 round bushes and small water wheel, 2 square bushes, 8 flat frames and launders, 30 fathoms launders, 20 fms. railroad and stands, iron tram wagon, screw stock, taps and plates, vice, 2 anvils, 2 bellows, smiths' and miners' tools, boiler steel, carpenters' bench, sawpit frame, Norway bark, beam, scales, and stands, barrows, shovels, new and old brass, iron, copper, and lead, leather, safety fuse, candles, brass, beam sales and weights, miners' dial and stand, copying press and stand, account house furniture, and a quantity of other effects in general use in mines.

To inspect the above, apply to the Manager in charge on the mine; and for further particulars to Mr. CHARLES WILLIAM CLINTON, the Official Liquidator of the said company, at the Stannaries Court Office, Truro.

HODGE, HOCKIN, AND MARRACK, Truro.

(Agents for S. T. G. Downing, Redruth, Solicitor for the Official Liquidator.)

Dated Stannaries Court Office, Truro, the 1st day of November, 1876.

COLLIERY.

TO BE SOLD, to an immediate customer a bargain, the COLLIERY, NETHERTON, near DUDLEY, with PLANT, FIXTURES, ELEVEN HORSES, ENGINES, RAILS, TUBS, and all ERECTIONS comprised in a successful going concern. Capable of raising 1000 tons of coal, slack, and ironstone per week.

The colliery consists of upwards of Twenty-five Acres of Brooch and Thick Coal Pickings, and the New Mine Coal untouched under the whole. Four shafts complete; offices, &c. No royalty. Rent about £150 per annum.

Hold upon lease for the unexpired term of 5½ years. To a responsible party part payment may be deferred.

Hold upon lease for the unexpired term of 5½ years. To a responsible party part payment may be deferred.

Apply to WM. SHAKESPEARE, Esq., Solicitor, Church-street, Oldbury; or to M. DAVIS, 17½, Temple-row, Birmingham.

IN VOLUNTARY LIQUIDATION UNDER THE COMPANIES ACT, 1862. THE NEW LLANGYNOG LEAD MINING COMPANY (LIMITED).

TO BE SOLD, BY PRIVATE TREATY, ALL the BENEFICIAL INTEREST of the New Llangynog Lead Mining Company (Limited) in the LLANGYNOG LEAD MINES, comprising all the valuable, productive, and extensive mines, veins, beds of lead, ores of lead, and other metals and minerals known collectively as the Llangynog Lead Mines, and in the reservoir, water-supply rights, easements, and interests thereto belonging, situated in the several parishes of Llangynog, Llanrhaidr-yng-Mochnant, Hirnant, and Pennant, in the county of Montgomery; and also the WHOLE of the movable PLANT and MACHINERY of the said company.

The Llangynog Lead Mines have been a highly productive and dividend-paying property.

The mines, machinery, and plant are in working order, and considerable quantities of ore are now being raised.

The works may be inspected at any time upon application to the Manager at the mines. The leases and agreements may be inspected at the offices of Messrs. LONGUEVILLE, JONES, and WILLIAMS.

All further information may be obtained, and maps of the property inspected on application to Messrs. GEO. HASWELL and SONS, 84, Foregate-street, Chester; to HENRY DENNIS, Esq., Mining Engineer, Hafod-y-Bwch, Ruabon; or to Messrs. LONGUEVILLE, JONES, and WILLIAMS, Solicitors, Oswestry.

Those desirous of inspecting the property are requested to send their names to the Author, of whom, with a table of contents of the work, may be obtained.

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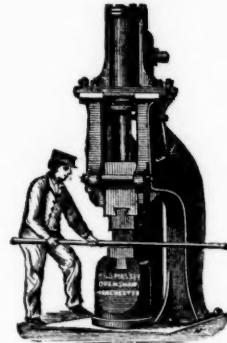
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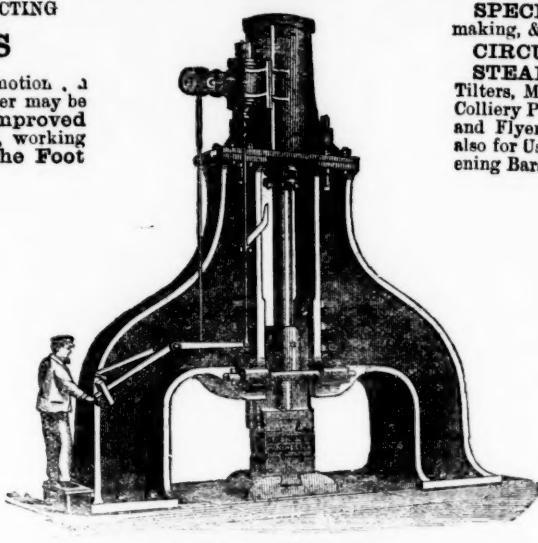
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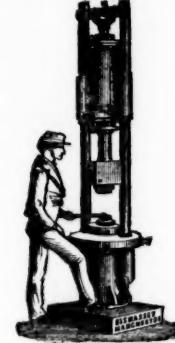
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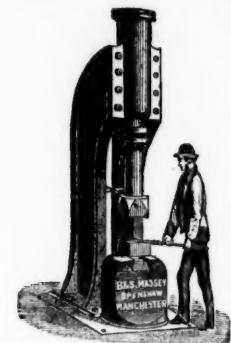
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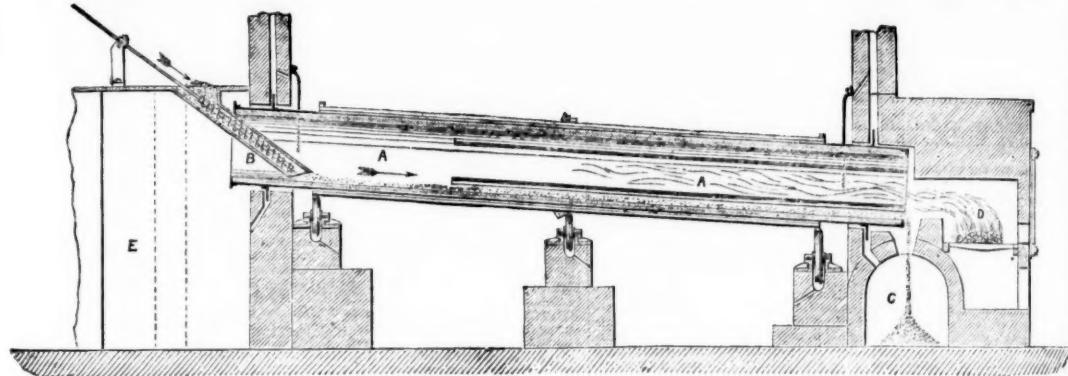
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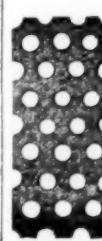
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Shares.	Mines.	Paid.	Last wk.	Clos. pr.	Total divs.	Per sh.	Last pd.			
1500 Alderley Edge, c, Cheshire*		10 0 0	-	-	12 11 8	0 5 0	Jan. 1876			
15000 Balmynheer, t, Wendoron (4000 to ls.)		1 0 0	-	-	0 2 0	0 2 0	Nov. 1875			
30000 Barnyfylde, c, i, mn., Devon*		1 0 0	-	-	0 2 0	0 2 0	June 1873			
200 Bettallack, t, c, St. Just*		119 5 0	30	-	25 30	619 15 0	0 6 0	Aug. 1872		
4000 Brookwood, c, Buckfastleigh		1 18 0	-	-	1 15	13 14	3 18 0	0 2 0	Nov. 1875	
3348 Cargoli, s-i, Newlyn*		6 6 0	-	-	4 4	8 4 4	4 16 3	0 12 6	Oct. 1872	
6400 Cashwell, t, Cumberland*		2 10 0	-	-	1	7 6	0 2 0	Aug. 1875		
1000 Carr Bras, t, Illogan		35 0 0	-	-	36	42 47 4	308 0 0	0 1 0	Feb. 1874	
6000 Cath, & Jane, t, Penrhynedraeth		5 0 0	-	-	1	7 6	0 2 0	June 1873		
2450 Cook's Kitchen, t, Illogan*		23 4 2	-	-	1	7 6	0 2 0	July 1873		
10240 Devon Gt. Consol., Tavistock*		0 0 0	-	-	11 17 0	0 7 6	Jan. 1873			
4296 Dolcoath, Tamarine		34 0 0	-	-	34	23 34	116 10 0	0 12 0	May 1872	
6500 Drake Walls, t, c, Calstock		10 14 10	25 5	37 39	110 13 0	0 7 6	Oct. 1876			
15000 Duchess of Westminster, t, Holywell		1 0 0	-	-	0	2 0	0 2 0	July 1874		
10000 East Balleswiden, t, Sancreed*		1 0 0	-	-	0	3 0	0 2 0	Feb. 1876		
6144 East Darmon, t, Cleer		2 14 8	1	5 1	0	2 11 0	0 5 0	Feb. 1874		
300 East Darmon, t, Carmarthenshire		22 0 0	-	-	235 10 0	0 1 0	Sept. 1872			
6400 East Pool, t, Illogan*		0 9 9	-	-	11 12	14 16 2	0 2 0	Aug. 1870		
1906 East Wheal Lovell, t, Wendoron*		8 19 0	3	2 3	20 7 6	0 7 6	Oct. 1870			
2800 Foxdale, t, Isle of Man*		25 0 0	-	-	82 5 0	0 10 0	Feb. 1876			
40000 Glasgow Coal, c [30,000 £1 p. 10,000 lbs.p.]		13 0 0	-	-	0 11 10 0	0 2 0	Jan. 1876			
15000 Great Dyllyffe, t, Montgomeryshire		4 0 0	-	-	4 4 5	4 4 5	0 2 6	Oct. 1876		
15000 Great Laxey, t, Isle of Man*		4 0 0	-	-	20 13 0	0 10 0	Oct. 1876			
615 Great Blatnick, t, b, Perranzabuloe		18 18 6	15	1 15	0 1 6	0 1 6	0 1 6	May 1875		
25000 Great West Van, t, Cardigan*		2 0 0	-	-	36	36 36	0 2 0	Aug. 1874		
8908 Great Wheal Vor, t, Heiston*		41 12 6	34	34	15 12 6	0 2 0	Aug. 1872			
6400 Green Hurlth, t, Durham*		0 6 0	-	-	1 12 0	0 4 0	Oct. 1874			
20000 Grogwinion, t, Cardigan*		2 0 0	-	-	8 8 5	8 8 5	0 1 0	Oct. 1874		
9830 Gunislake (Clitters), t, c		5 5 0	-	-	0 8 0	0 8 0	2 8 Sept. 1876			
1024 Herdfoot, t, near Liskeard*		8 10 0	4	3 4	62 5 0	0 10 0	Oct. 1872			
15000 Hington Down, t, Calstock* (21 sh.)		2 8 0	-	-	4 4 3	4 4 3	4 4 0	0 1 0	Nov. 1875	
25000 Killone, t, Tipperary		18 15 0	70	65 70	0 7 6	0 10 0	1 0 0	Sept. 1876		
8000 Llanidloes, t, Montgomery		3 0 0	-	-	3 3 1	0 1 6	0 1 6	Nov. 1875		
6120 Lovell, t, Wendoron		0 10 0	-	-	17 6 0	0 1 0	Jan. 1876			
11000 Melinford Valley, t, Cardigan*		3 0 0	-	-	1 1 2	0 7 2	0 3 0	Jan. 1875		
9000 Minera Mining Co., t, Wrexham*		5 0 0	-	-	22	22 25	65 8 2	0 7 0	Oct. 1876	
20000 Mining Co. of Ireland, c, i, c*		7 0 0	-	-	5 5 6	5 5 6	23 11 0	0 3 0	Aug. 1876	
512 North Busy, c, Chacewater		3 9 6	-	-	0 10 0	0 10 0	Dec. 1875			
12000 North Hendre, t, Wales		2 10 0	-	-	1 2 6	0 2 0	Nov. 1875			
2000 North Levant, t, St. Just*		12 2 0	-	-	4 13 0	0 12 0	Sept. 1873			
27555 Old Treburtgett, s-i, ord. many shares		1 0 0	-	-	0 9 0	0 9 0	Feb. 1874			
2528 Old Treburtgett, s-i, (10 per ct. pref.)		10 0 0	-	-	0 1 4	0 1 4	0 6 0	July 1874		
5000 Penhalls, t, St. Agnes		8 0 0	-	-	0 1 4	0 1 4	0 6 0	July 1874		
45783 Penfrith, t, c, Gwynedd		2 0 0	-	-	3 13 6	0 2 0	July 1875			
12300 Phoenix, & W. Phoenix, t, Link*		3 4 9	-	-	0 2 8	0 2 8	0 8 0	Nov. 1875		
18000 Prince Patrick, t, c, Holywell		1 0 0	-	-	2 9 6	0 4 0	Nov. 1875			
1124 Providence, t, Lelant*		13 6 7	-	-	2 2 4	0 14 0	0 1 0	Jan. 1876		
12000 Roman Gravels, t, Salop		7 10 0	14	13 14	10 12 6	0 10 0	Sept. 1872			
512 South Caradon, c, St. Cleer		1 5 0	-	-	11 10 5	73 1 0	0 3 0	Oct. 1876		
6123 South Condurrow, t, Camborne*		6 5 5	-	-	2 2 0	0 3 0	Oct. 1876			
10000 So. Pr. Patrick, t, i, (5000 sh. issued)		1 0 0	-	-	0 7 0	0 1 0	Oct. 1876			
12000 Tankerville, t, Salop		8 0 0	-	-	10 10 1	4 12 0	0 1 0	Oct. 1876		
6000 Tincroft, c, t, Pool, Illogan*		9 0 0	-	-	19 19 2	19 19 2	49 13 6	0 5 0	Aug. 1876	
15000 Van, t, Llanidloes*		4 5 0	-	-	37	36 38	19 1 6	0 10 0	Dec. 1876	
8900 W. Chiverton, t, Perranzabuloe*		12 10 0	19	18 19 19	54 10 0	0 10 0	Sept. 1876			
512 West Tolquh, t, Redruth		10 0 0	-	-	11 13	19 1 0	0 4 0	July 1876		
2048 West Welsh Frances, t, Illogan		95 10 0	59	63 65	16 15 0	0 1 0	Oct. 1876			
12320 West Wye Valley, t, Montgomery		27 13 9	-	-	4 4 5	3 12 6	0 5 0	Oct. 1876		
512 Wheal Bassett, t, Illogan*		3 0 0	-	-	0 3 0	0 3 0	May 1876			
1024 Wheal Eliza Consols, t, St. Austell		20 0 0	-	-	13	20 25	68 10 0	0 1 0	Aug. 1872	
2048 Wheal Jane, t, Kent		2 18 10	-	-	1 1 13	8 5 0	0 5 0	July 1875		
4295 Wheal Kitty, t, St. Agnes		5 5 6	3	23 34	11 12 8	0 2 6	Dec. 1872			
80 Wheal Owles, t, St. Just*		86 5 0	-	-	150	522 10 0	0 4 0	Dec. 1875		
25000 Wicklow, c, su, t, Wicklow		2 10 0	-	-	1 1 2	52 9 0	0 2 0	Mar. 1872		
10000 Wye Valley, t, Montgomery*		3 0 0	-	-	8 7	10 6 0	0 4 0	Oct. 1876		

NON-DIVIDEND FOREIGN MINES.

Shares.	Mines.	Paid.	Last Fr.	Clos. Fr.	Last Call.
85500 Alamillo, t, Spain*		2 0 0	-	-	1 16 3
30000 Almada and Trito Consol., s-i*		1 0 0	-	-	0 6 3
20000 Australian, c, South Australia*		7 7 6	-	-	0 18 0
16000 Battle Mountain, t, (6240 part pd.)		5 0 0	-	-	0 10 0
15000 Birdseye Creek, g, California*		6 0 0	-	-	0 10 0
12320 Burr Burra, c, So. Australia		4 0 0	-	-	0 14 0
20000 Cape Copper Mining, t, So. Africa		5 0 0	-	-	0 10 0
40000 Cedar Creek, g, California*		5 0 0	-	-	0 10 0
30000 Central American Association*		18 16 6	-	-	0 6 0
15000 Chicago, t, Utah		10 0 0	-	-	73 7 7
21000 Colorado Terrible, t, Colorado*		10 0 0	-	-	2 4 0
10000 Coopio, t, Chile*		16 15 0	-	-	0 1 0
00000 Don Pedro North del Rey*		10 0 0	-	-	7 5 5
23500 Eberhardt and Aurora, t, Nevada*		10 0 0	-	-	0 2 6
50000 Emma, t, g, Utah		10 0 0	-	-	8 8 5
70000 English and Australian, c, S. Aust.		20 10 0	-	-	3 1 2
15000 Ferguson, g, California*		2 10 0	-	-	1 1 1
25000 Flagstaff, t, Arizona*		2 0 0	-	-	2 18 9
30000 Fortuna, t, Spain*		10 0 0</			